

MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXXVI. No. 17.
WEEKLY.

BALTIMORE, NOVEMBER 16, 1899.

\$4.00 A YEAR.
SINGLE COPIES, 10 CENTS.

Manufacturers' Record.

PUBLISHED EVERY THURSDAY BY THE
Manufacturers' Record Publishing Co.
RICHARD H. EDMONDS, President.
OFFICE: MANUFACTURERS' RECORD BUILDING,
BALTIMORE.

RICHARD H. EDMONDS,
Editor and General Manager.

THOMAS P. GRASTY,
General Staff Correspondent.

SUBSCRIPTION, - - - \$4.00 a Year.
TO FOREIGN COUNTRIES, - - 26s. 6d. a Year.

BALTIMORE, NOVEMBER 16, 1899.

The South of Today.

In order to present to the world a full story of the South of today the Manufacturers' Record will shortly issue a special Supplement covering the industrial progress to date and the outlook for the future. The contributors to this issue will include many of the most noted men of the South—men who for years have led in its upbuilding, and experts who will deal broadly with the foundation of natural resources on which Southern development rests. We believe that this Supplement will be the most important publication ever issued in the interest of the South's material advancement. The aim will be to cover as briefly but as comprehensively as possible the most telling facts regarding what has been accomplished and what the prospect for the future is, in order that the busy man may grasp the whole subject without wading through an undigested mass of uninteresting articles.

This Supplement will be sent to every subscriber to the Manufacturers' Record, and in addition to this the Southern Railway Co., appreciating its importance to the South, has purchased 10,000 copies, which will be mailed to leading business men, manufacturers and capitalists in the North and West. A copy will also be sent to every bank and banker in the South, and to many in other sections.

A Chance to Progress.

Though the November elections could hardly be called national ones, their results were supposed to have a bearing upon the political campaign of 1900. The elections are over, and the country, facing tremendous problems far above party politics and directly related to the health and prosperity of the United States, has the opportunity to gain a temporary relief from the drawbacks of partisan politics. The Congress about to assemble may safely be depended upon to indulge in all the politics necessary, though it is hoped that as little politics as possible may be considered necessary. At any rate, there is now a first-class chance for

strict attention to business and industry. This chance is needed, and needed nowhere more than in the South. With cotton bringing from \$10 to \$15 more a bale than it did at this time last year, with cotton mills busy with orders for this country and for foreign nations, with iron resources being developed under the spur of a persistent, increased demand, with phosphate deposits being rapidly uncovered in new and old fields, with the lumber business expanding and the railroads scrambling for cars to meet transportation necessities the South is on an upward trend, with nothing apparently likely to interrupt its progress, unless undue absorption in mere party politics shall intervene. The chance should be seized by the South, in the hope that before the people of the country are again involved in a political campaign the questions to be settled shall turn, not upon dead issues galvanized to serve the temporary end of personal ambition, but upon issues which may be discussed and settled without threatening the paralysis of the South.

Advancing American Trade.

From time to time, whenever opportunity has presented itself, the Manufacturers' Record has published articles intended to point the way to an extension of American commerce into new fields, or to its development in territories already open without restriction to American enterprise. It has found in the reports of United States consuls and in the letters of merchants and importers of foreign lands suggestive material, and has published it for the benefit of American manufacturers and exporters. In last week's issue it published reports from United States Consul-General Stowe at Cape Town and United States Consul Williams at Sierra Leone, and a letter from a business firm of Smyrna describing the progress already made by American manufacturers, or the opportunities awaiting them in Africa and Asia Minor. The Columbia (S. C.) State, recognizing the value of the publications, reproduces them in an editorial which is made the medium, apparently, of an opposition to recent developments by practical Southern men favorable to an enlargement of commerce, in which the South is vitally interested. It says:

It is natural for us all to be interested in the extension of American trade to foreign countries; it is sensible to seek a market for American manufactures in other lands; it is reasonable not to rely upon the demand at home, which at present is at an abnormal stage. We take it that all who have the commercial interests of this country at heart will rejoice because of any advantage which American industries may gain abroad.

These utterances are sober enough, but The State becomes rather facetious in its comments upon the letters. It suggests that the United States, for the furtherance of American trade, might appropriate Liberia, and says: "Surely our diplomats and big cotton-spinners' associations are overlooking this 'land of teeming millions,' who are waiting

to be clothed, while we are busy in the Philippines and resolving about China." It suggests benevolently assimilating Smyrna for the extension of our trade, and expresses surprise that "some senator has not declared himself ready to vote money and men and ships and a whole lot of other things to assure our manufacturers a market for their goods in Asia Minor." This may appear amusing, but practical business men of the South—men who permit neither theory nor party politics to interfere with their efforts for what they believe to be the best interests of their section—do not regard the condition of America's foreign trade as a joke. Their opinions are set forth in the following resolutions of the Southern Cotton Spinners' Association:

Whereas, The increase in manufacturing interests of the United States from \$9,000,000,000 value in 1890 to \$20,000,000,000 (estimated) in 1900 makes it plain that our domestic markets can no longer take all our manufactured products; and

Whereas, The Southern cotton-manufacturing interests alone have increased from the product in 1890 of 1,500,000 spindles to 5,000,000 (estimated) in 1900, and the development of trade for our surplus American-made cotton goods has been largely in China and other Oriental countries;

That we urge upon the President of the United States and our senators and representatives in Congress the following measures:

1. The preservation of the integrity of the Chinese Empire, of all our treaty rights with that empire, and the maintenance of an open-door policy in China with the commerce of all nations.
2. Vigorous prosecution of the Philippine war to a conclusion, and the restoration of order in that territory by our government.
3. Construction, without delay, of an isthmian ship canal.
4. Construction of a cable from the Pacific coast to Hawaii, Japan, China, the Philippines and other Oriental points.

That we recommend, if it be necessary, co-operation of our government with the governments of England and Japan to preserve and protect a common trade interest and treaty rights for unrestricted commerce in China and other Eastern countries.

In these resolutions a condition is recognized by Southern business men, who also set forth for the consideration of American authorities the plan whereby they believe that condition may be met to the best interest of the South and the whole country. Opinions may differ as to the status of the United States toward other nations—as to whether this government shall unreservedly adopt the suggestion of co-operation with England for the maintenance of the "open door" in China, or, as is suggested by a writer on another page of this issue, shall weigh mutual benefits and services. However, everybody interested in the South's development must incline to the sober statements of the Southern cotton spinners rather than to the levity of The State.

In a letter to the Manufacturers' Record Messrs. Clark & Co., owners of the Blue Ridge Tobacco Works at Bedford City, Va., write as follows:

We are always pleased to reply to any inquiries from the Manufacturers' Record, which we recognize as a medium of incalculable good to the Southern country.

Training for Trade.

Mr. J. C. Monaghan, United States consul at Chemnitz, Germany, is making a visit to this country the occasion for a campaign for the development of the industrial and commercial life of the United States. He has lived in Germany for more than ten years, and has studied the systems which have brought Germany to the front as a powerful competitor for the trade of the world in manufactured goods. According to him, the fundamental principle in Germany seems to be for mill-owners, manufacturers and other persons interested in industry to co-operate with the government in building up technical schools, of which there are between 200 and 300 in Saxony alone. In an interview at Philadelphia he said:

The best men in the empire believe in these schools. They consider them an indispensable adjunct to industrial forces. Then, too, if they aid agriculture and the industries by such schools, they never neglect commerce, for quite recently a commercial high-school system has been added to the already very efficient system of network of commercial schools. In these the boys are taught not only commercial correspondence, but commercial geography, commercial banking, commercial law, and, in fact, all subjects a knowledge of which may be helpful to them in extending trade.

So highly developed and important is this idea of education in the empire that it has been extended even to foreign parts. Boys are encouraged to go out to the East, to England and other countries as volunteers in large industrial concerns for the purpose of learning foreign languages. Funds are at the disposal of the foreign office for the purpose of aiding German schools in foreign parts. Bismarck, the biggest mind Germany has had in a thousand years, has said in his terse way of talking that the nation with the schools has the future, and when told that other people were taking up this idea of technical education, answered by urging his own people to keep always in the advance.

Mr. Monaghan would encourage the people of the United States, which have so great an advantage over Germany in easy access to the raw material for manufactures, to adopt the German method of training young men to meet the requirements of the country. In conjunction with Dean Johnson of the University of Wisconsin he has, according to the Philadelphia Telegraph, formulated a plan outlined as follows:

Manufacturing corporations and railroad companies to establish at the seats of the larger factories day and night schools, the first for the training of men and the latter for the training of the sons of the workmen who expect to enter the works.

Every city to establish jointly with proprietors of industries schools of theoretical and practical training in industry.

Art and manual work to be made a part of the whole course of the public-school system, private aid being extended, if necessary, to introduce these features long enough to convince the people of their value.

The establishment by the State of a correspondence school, and shops and laboratories in every town and city

which will supply the necessary buildings and plant.

To make effective the results of such a system, the establishment in every large city or commercial center of a commercial high school leading to commercial colleges where young men shall prepare to enter commercial houses doing a foreign business, or for appointment in the consular service.

This is a large programme, and at first glance presents difficulties of one kind or another. These difficulties, however, may disappear in the light of the tremendous possibilities of the United States as an exporter of manufactured goods, the necessity for trained men in the consular service before these possibilities are to be realized, and the opportunity presented in co-operative schools for tiding over labor derangements consequent upon economic revolution.

The part to be played by the United States in the world's commerce is not a hurrah matter, but one of unrelaxing effort backed by skill and foresight. Technical training will enable the manufacturers to keep pace with the pioneers sent forth from the consular schools.

The Trouble with Texas.

In last week's Manufacturers' Record was published a letter from Gen. John M. Claiborne of Rusk, Texas, asking why certain iron opportunities at Rusk had not been eagerly seized. General Claiborne could perhaps answer that question better than anybody else. Bearing upon the answer is an editorial in the Texas Coaster. It asserts that while the people of other Southern States have been building mills to work up the products of their soil, and instead of selling cotton for five cents a pound and buying it back for \$1, they are selling it to themselves and keeping the difference, Texas has been behind the procession, and it adds:

Every yard of cotton goods used in Texas should be made right in the State from home-grown cotton; every shoe and boot, saddle and set of harness should be made in Texas of Texas-tanned leather; every wool garment in Texas should be made in Texas of Texas wool, and every biscuit and loaf of bread eaten in the State should be the product of our Texas fields. When the people of Texas become imbued with this spirit of patriotism and enterprise these things will be, and Texas will have more millionaires than any of the States.

Here is food for thought. No one who knows Texas doubts the vast industrial and commercial possibilities of that State. For years some of its leading papers have persistently encouraged a public sentiment favorable to the development of its manufacturing interests. They have met with a measure of success. But that success would be greater could Texans impress upon their lawmakers the necessity for legislation protecting not only home capital seeking investment, but also that from outside. Regrettable though it be, it is nevertheless a fact that among investors there is a decided fear about the safety of their capital in Texas. Action of Texas officials has justified such a fear. Wise legislation and reasonable officials will remove it, and Texas will enter upon her own.

A dispatch from Chattanooga, Tenn., is to the effect that the Consolidated Lime Co. will have its headquarters in that city. This company represents a combination of some of the largest lime-making plants in the Southern States, having a capacity of nearly 3,000,000 barrels annually. A. M. Baldwin of Montgomery, Ala., will probably be president of the company.

NOTES ON THE SOUTHERN IRON INDUSTRY.

Changes That Have Taken Place During the Past Year Among the Mills and Furnaces, and the Situation as It Appears Today.

By Edward H. Sanborn.

I.—THE TRANSFORMATION IN VIRGINIA.

One who undertakes to take a general survey of the Southern iron industry at the present time and begins at the northern limits of the field is impressed, first of all, with the transformation that has been wrought in Virginia during the past six months. The line of the Norfolk & Western Railway has been gloomily marked for five or six years past by monuments of the great land boom that was at its height ten years ago. The iron industry was seductively used as a basis for town-plot projects, and blast furnaces were erected as nuclei for future great industrial cities. The town lots quickly returned to corn fields, but the blast furnaces have remained to this day a rebuke to those who sought to hasten Virginia's industrial growth by such means.

These furnace plants for the most part were well built; money was not spared in the efforts to make them modern in every respect. There were some mistakes in their location, and many of them were completed and ready for operation several years in advance of the supplies of ore requisite for their operation.

The causes which led to their failure were several and somewhat complex. The lack of ore supply was a very important factor; faults in management pointed strongly towards failure, and nothing helped more to wreck these new industries than the steady decline in the price of their product and the general business depression—conditions which even the most firmly-established industries survived with difficulty. It is significant, however, that there are blast furnaces in the South that have continued successfully in operation throughout the severest depression, and have returned profits to their owners without interruption. A thoroughly modern plant, well managed and unencumbered by any burden of indebtedness, can usually make both ends meet, even under the most trying conditions. What has been done in Alabama and in Tennessee could have been done in Virginia.

It is easy enough to show why so many Virginia blast furnaces nearly became scrap during the past five years. It is easier to criticize than to make pig-iron any time. What is more interesting and more gracious just now is to note the resuscitation of all these collapsed industries and their restoration to the ranks of active pig-iron producers. This has been made possible, and even easy of accomplishment, by the extraordinary advance in the price of pig-iron, the comparatively insignificant increase in the cost of production and the insatiable demand for every ton of iron that can be made. There is probably no furnace in the United States in workable condition that could not make and sell pig-iron at a profit under the conditions which now prevail. The revival of the Virginia furnaces, however, should not be viewed in that light, for what has been done has been undertaken with foresight and system and as part of a very comprehensive plan to carry out in a practical business way the purposes which were overthrown by speculation early in the nineties.

The extensive undertakings of the Virginia Iron, Coal & Coke Co. in its resuscitation and consolidation of dormant furnace plants, its important operations in ore, coal and coke, and its railroad enter-

prises form the most conspicuous and most interesting feature of the Virginia iron industry at present, and the probable result of it all is the subject of no little conjecture and prophecy among those who have some knowledge of the conditions which must be met.

Briefly stated, the undertakings of this company embrace the following:

Twelve coke blast furnaces in Virginia, Tennessee and Kentucky.

Three charcoal furnaces in Tennessee and Virginia.

One basic open-hearth steel plant at Middlesborough, Ky.

One rolling mill and horseshoe factory at Max Meadows, Va.

One cast-iron-pipe foundry at Radford, Virginia.

One hundred and thirty-two thousand acres of coal land in Virginia, with mines having an approximate daily output of 5000 tons.

Five hundred coke ovens in Virginia.

Two hundred and twelve thousand acres of ore lands in Virginia, Tennessee and Kentucky, with some thirty workings, having an approximate daily output of 4000 tons.

Extensive limestone and dolomite quarries.

Five foundries and machine shops for general work.

One hundred and thirty-four miles of standard-gauge railroad, with passenger and freight equipment and in regular operation.

This property is the basis of an authorized capitalization of \$20,000,000 in equal portions of stock and bonds.

This combination of interests was due to George L. Carter of Bristol, Tenn., who has long been identified with Virginia iron interests. With the financial engineering of E. R. Chapman of the New York banking house of Moore & Schley, the amalgamation of these many and varied interests was accomplished last winter and spring, the Virginia Iron, Coal & Coke Co. was incorporated under Virginia laws and capital was issued to the extent of \$7,500,000 in stock and an equal sum in first mortgage 5 per cent. gold bonds. The officers of the company are as follows:

President, George L. Carter.

Vice-president and treasurer, Elverson R. Chapman.

Vice-president and assistant treasurer, M. D. Chapman.

Directors, in addition to the above, Grant B. Schley and B. L. Dulaney.

The general offices of the company are at Bristol, Tenn., and from that point all the diversified operations are conducted. The technical work is under the direction of Walter Graham, the general superintendent of the company.

The magnitude of the operations of this company justifies some analysis of its properties and an account of what has been done upon them since last spring, when work was begun.

Blast-Furnace Properties.

Crozer Furnaces, Roanoke, Va.—These two stacks were purchased from the Crozer Iron Co., by which they were built, one in 1883 and the other in 1889. These were among the first blast furnaces built on the line of the Norfolk & Western Railway, and have been operated with

less interruption than any of the stacks along the line. Since the transfer of the property to the new company extensive improvements in the plant have been undertaken. Furnace No. 1, formerly 70x15 feet, was relined and the bosh was increased to seventeen feet three inches. This stack was blown in on August 5, and has been making iron without interruption, averaging about 150 tons per day. Furnace No. 2, now relining, is the same height, and the diameter is being increased from fourteen and one-half to sixteen feet three inches. The six Whitwell stoves are being increased to eight by the addition of two from Salem Furnace, which was bought by the company and dismantled. Two Tod blowing engines from Salem are being added to the two Weimer and two Witherow engines heretofore in use, the engine-house having been enlarged for the purpose. The draft stack and casthouse of Salem Furnace also have been erected at Crozer in place of the old ones. Two new Cahall boilers of 400 horse-power each have been added. The entire plant is being generally overhauled, and a large amount of work is still in progress. The stack now in blast is running on high silicon iron for use as a softener, using Rorer and Blue Ridge ores and Cripple Creek limonite. The coke is part Pocahontas and part from the company's Tom's Creek ovens.

Salem Furnace, Salem, Va.—This plant, which was built in 1891, was operated for a time by the Salem Furnace Co., one of the interests allied with the Norfolk & Western Railway, but went out of blast six years ago. It passed into the hands of the Virginia Development Co., representing practically the same interests, and finally was acquired by the Virginia Iron, Coal & Coke Co. It was not deemed wise to operate it, so the plant was dismantled and its equipment has been distributed among other furnaces owned by the company, most of it going to Crozer.

Dora Furnace, Pulaski, Va.—This is one of the plants that was built by Norfolk & Western interests in 1892. George L. Carter, president of the Virginia Iron, Coal & Coke Co., was largely interested in this property prior to the formation of the consolidated company, and the plant went in with the others to form the present combination. There is one 75x17 stack, with three Whitwell stoves. The furnace was in blast when taken over by the present company, and has continued in operation. The plant has been generally overhauled, an additional stove is being built and four new 250-horse-power Cahall boilers have been added.

Buena Vista Furnace, Buena Vista, Va.—This plant was one of the first built during the great Virginia land boom, and was one of the group that embraced the Salem, Graham and Dora furnaces, all promoted by Norfolk & Western interests as part of the general scheme for development of the territory tributary to that road. The furnace was completed and first put in blast in 1890. In the reorganization of the Norfolk & Western Railway's affairs it became the property of the Virginia Development Co., and was operated under lease by the Alleghany Iron Co. of Richmond. When taken over by the Virginia Iron, Coal & Coke Co. the furnace was active, and it has been continued in operation without any change of importance. Its product at present is iron for basic open-hearth steel. The stack is 70x16½, with three Whitwell stoves.

Radford Furnace, Radford, Va.—This furnace was built in 1890-92 by the Radford-Crane Iron Co. of Philadelphia. Its construction was retarded by the general depression, and although finally completed, it has never been in blast, and has

stood idle for about seven years. The stack is 75x18, with four Whitwell stoves, and its capacity is rated at about 50,000 tons per annum. The plant is now being overhauled, minor parts are being renewed, pipe connections are being made and new trestles built, and the plant will probably be put in operation in November.

Graham Furnace, Graham, Va.—This plant was built immediately after the Buena Vista Furnace, and by practically the same interests. The two plants are exact duplicates in their dimensions and equipment. Graham Furnace, however, made only a short blast and then went out. It has been idle since 1892, but is now being generally overhauled and partially relined and is expected to be ready to blow in by the first of 1900.

Max Meadows Furnace, Max Meadows, Va.—This is the largest of the Norfolk & Western group of furnaces, being 73½x20 feet, with a cubical capacity of 14,527 feet. This plant was built in 1890-91 by the Max Meadows Iron Co. of Philadelphia, but was not blown in until the latter part of 1895. It was operated for a short time by the Pulaski Iron Co., and then blew out. The stack is being relined, another Whitwell stove is being added to the three originally built, and two 250-horsepower Cahall boilers are being added. The furnace will probably be blown in about the first of next year.

Bristol Furnace, Bristol, Va.—This is one of the largest, and is regarded as one of the best furnaces owned by the Virginia Iron, Coal & Coke Co. It was built in 1891 by the Bristol Iron & Steel Co., and was expected to make Bessemer iron from Cranberry (N. C.) ore, but after a short blast it went out and remained idle until October 24, 1899. The plant passed from the original ownerships to the Home Iron Co. and finally to the present owner. During the past summer and fall extensive improvements have been made. The stack has been relined and increased in diameter from seventeen feet to nineteen and one-half. A new Whitwell stove has been added, making four in all, and two 250-horsepower Cahall boilers have been set up. A new hoisting engine has been put in and many minor improvements have been made.

Carnegie Furnace, Johnson City, Tenn. Construction of this plant was begun in 1892, but was suspended during the business depression. After a change in ownership the plant was completed and blown in about the beginning of this year. The stack is 75x16, with three Whitwell stoves. It was in blast when acquired by the present owner, and is being run on special low-phosphorus iron.

Embreville Furnace, Embreville, Tenn. This was an English enterprise, started on the decline of the boom in 1891. The furnace first went into blast in 1892 and has been operated with considerable regularity ever since then, although the original company underwent reorganization a few years ago. The property was active when taken over by the present owners, and is run on low-phosphorus foundry iron. The stack is 80x17½ feet, with three Cowper-Kennedy stoves, and is rated at about 45,000 tons per annum.

Middlesborough Furnaces, Middlesborough, Ky.—These are the two furnaces that were begun ten years ago, when the great development operations at Middlesborough were undertaken by the Watts syndicate of English capitalists. It was not until 1893 that the furnaces were completed and blown in, and their operation has been intermittent as the changing fortunes of the town, which was built around them. Both stacks are 75x17 feet, and they have seven Whitwell stoves. The plant was well built and is in good condition. Both furnaces are now in

blast making foundry iron, but No. 1 will soon go out for relining.

Included in the property acquired with the purchase of the Reed Island Iron Co., the Foster's Falls Mining & Manufacturing Co. and the Wythe & Speedwell Iron & Manufacturing Co. were several small charcoal iron furnaces in Southwest Virginia, but they are hardly a factor in the operations of the present company. Reed Island Furnace, at Reed Island, Va., is the only one that is operated at present. This is a 33x9-foot stack, making about eight tons daily of cold-blast charcoal iron.

Rolling Mills and Other Works.

The only active rolling-mill property owned by the Virginia Iron, Coal & Coke Co. is the Crescent Horseshoe and Iron Works at Max Meadows. This plant embraces eight puddling furnaces, three heating furnaces, one 15-inch and one nine-inch train of rolls, three spike machines and six horseshoe machines, with an annual capacity of about 15,000 tons of finished products, including merchant bars, railroad and boat spikes and horse and mule shoes. This is the only rolling mill in Southwest Virginia that has been in operation for some years past. The plant has been given a general overhauling and one new Cahall boiler has been added. The mill is being run wholly on shoes, and the output is being brought up close to 800 kegs per day.

The basic open-hearth steel plant which was built at Middlesborough, Ky., in conjunction with the two blast furnaces at that place was also acquired by the Virginia Iron, Coal & Coke Co. Although begun in 1890, the plant was never fully completed, and has never been regularly in operation for any length of time. There are seven open-hearth furnaces of twenty-five tons capacity each and a 32-inch blooming mill. The plant was built to make billets and slabs, and is rated at about 75,000 tons per annum. Thus far no steps have been taken towards putting the plant in operation, and it has not yet been decided what will be done with it.

Of the several foundry properties acquired by the Virginia Iron, Coal & Coke Co. the largest and most important is the Radford Pipe Foundry, at Radford, Va. This plant was built seven or eight years ago, and was a very complete and well-equipped foundry when erected. Prior to its purchase by the present owners it was idle for a considerable period, and is now being thoroughly overhauled and remodeled in many particulars. Pneumatic hoists and hydraulic cranes are being installed for the better handling of material and products, and the efficiency of the plant is being increased in various ways. The foundry has capacity for casting about 125 tons daily of pipe, ranging from two to thirty-six inches in diameter.

Iron-Ore Properties.

The holdings of iron-ore properties by the Virginia Iron, Coal & Coke Co. embrace the larger part of the available deposits in Southwest Virginia, and in addition large tracts in Tennessee and Kentucky. All told, these properties amount to about 212,000 acres, providing resources which should place the company safely beyond all possible requirements for ore to supply any furnaces likely to be constructed. Nearly all of the furnaces have more or less ore properties of their own, but by far the larger part of the property was acquired independent of the furnaces. The ore tracts lie chiefly in Roanoke, Pulaski, Wythe, Smyth, Wise and Washington counties, in Virginia, and in Johnson, Carter, Sullivan and Washington counties, in Tennessee. The Embreville estate in Washington county, Tenn., alone embraces about 47,000 acres of iron-ore lands, which were acquired

with the furnace. Considerable new work is being done there. Three new mines are being opened, three new log-washers are being put in, a new limestone quarry is being opened, and railroad connections to the different mines are being built.

Among the iron-ore mining interests which were consolidated in the present company are the following: Reed Island Iron Co., Locust Hill Iron Co., Foster Falls Mining & Manufacturing Co., Wythe & Speedwell Iron & Manufacturing Co., Edith Mining Co., Blue Ridge Mining Co., Consolidated Coal, Land & Iron Co., Potts Valley Ore Co., Doe Mountain Mining & Improvement Co. and Doe Valley Association.

There is a wide range in the character and composition of the iron-ores, permitting any desired selection or combination of ores to meet the requirements for any particular grade of iron. The following analyses of average shipments show fairly well the various classes of ore now being mined:

	Iron.	Silica.	Lime.	Phos.	Man.	Sul.
	P. c.	P. c.	P. c.	P. c.	P. c.	P. c.
Magnetic	45.26	22.93	0.019	0.011	.....	.....
Cassan	45.88	11.34	.....	0.057	.....	0.192
Potsdam	45.29	24.19	.....	0.77	1.28	0.171
Limestone	54.43	6.84	.....	0.09	0.20	0.05
Clinton	.....	.....	.....	.....	.....	.....
brown	48.90	16.20	.....	0.94	0.55	.....
Soft fossil	46.10	19.76	.....	1.94	0.201	.....
Hard fossil	40.53	9.42	11.71	0.83	0.30	0.05
Oriskany	48.30	16.00	.....	0.671	1.80	.....

Mining operations are now being carried on at more than thirty different points. The output from these mines at present is sufficient to meet the requirements of the furnaces that are now in blast, and the mining capacity is being increased to a point that will furnish enough ore for all the furnaces owned by the company. It is estimated that about 1,250,000 tons of ore will be required annually for this purpose.

On the Stony Creek extension of the Virginia & Southwestern Railroad, which is now being built, extensive mining operations in the brown hematite deposits are to be undertaken at once, and mining and washing facilities sufficient for an output of 1000 tons daily will be provided. On the ore properties lying along the Louisville & Nashville Railroad between Middlesborough, Ky., and Big Stone Gap, Va., preparations are being made for a daily output of about 500 tons. The mines on the Ducktown properties are now shipping about twenty-five cars per day.

From the extent and variety of the ore deposits, and the ample railroad facilities for distributing the output among the different furnaces, it would seem that the problem of ore supply is merely a question of development of the properties, of providing sufficient facilities for mining, washing and loading the ore. Ore supply has been the one difficult problem that has confronted the blast furnaces in Southwest Virginia heretofore, but in this case it would seem that the problem has become comparatively easy of solution.

Coal and Coke Resources.

The coal properties of the Virginia Iron, Coal & Coke Co. embraced in the consolidation and acquired by subsequent purchase aggregate about 132,000 acres. The principal interests represented in the present company are the following: Tom's Creek Coal & Coke Co., Virginia & Tennessee Coal & Iron Co., Wise County Coke Co., Speedwell Coal & Coke Co., Kentucky Coal & Coke Co., Jones Coal & Coke Co., Swansea Coal & Coke Co., Pine Run Coal & Coke Co., Coeburn Coal & Coke Co., Coeburn Colliery Co., Sexton Coal & Coke Co. and Lee Coal & Coke Co.

Mining operations thus far have been confined to a few points on Tom's creek and Looney creek. The coal is of excellent quality, both for steam purposes and for coking. The following analysis is rep-

resentative of the average composition of the coal:

	Per cent.
Fixed carbon	60.798
Volatile matter	32.286
Ash	5.620
Water	.704
Sulphur	.492
	100.000

Coke made from this coal is bright and strong, carrying a heavy burden in the furnace. Its analysis shows the following:

	Per cent.
Fixed carbon	89.00
Ash	8.62
Moisture	1.99
Sulphur	.57

On Tom's creek there are 500 coke ovens, 285 of which have just been built, and the output of the mines is about 100 cars per day over and above what is used at the ovens. A new Jeffrey washing plant has been put in and the capacity of the mines is being considerably increased. The mines on Looney creek are turning out about ten cars per day, this output being shipped for the general market.

The character and extent of the coal properties of the company seem to be adequate to cover all possible future requirements of the company's own furnaces, and in addition furnish a large tonnage for the general market.

Railroad Properties.

The Virginia Iron, Coal & Coke Co. has very important assets in its railroad properties, which are not only of value in themselves, but also afford independent communication between the coal and ore mines and the furnaces owned by the company. As a part of the consolidation, the Virginia Southwestern Railway Co. was formed by the amalgamation of two small lines—the South Atlantic & Ohio, extending from Bristol to Louisville and Nashville Junction, near Big Stone Gap, a distance of seventy-one miles, and the Bristol, Elizabethton & North Carolina, running from Bristol to Elizabethton, about twenty-three miles. This company, although wholly owned by the Virginia Iron, Coal & Coke Co., is operated as an entirely separate and distinct corporation. The general offices are at Bristol, Tenn., and the management is as follows: President, George L. Carter; vice-president and general manager, M. D. Chapman; treasurer, E. R. Chapman; assistant to general manager, J. M. Fitzgerald; general freight and passenger agent, W. B. Emmert; auditor, E. W. Mills.

About forty miles of new road are under construction as extensions and branches of the line, the most important of which is an extension of about thirty-two miles from Elizabethton to Brownsville. There are several smaller branches which have been built to give access to mines. The entire road has been practically rebuilt. Thirty miles of track have been relaid with 85-pound rail, in place of fifty-six pounds. Fifty thousand new ties have been put in since June. All wooden bridges have been rebuilt, some of them having been filled in. The equipment has been very thoroughly overhauled. One hundred new coal cars and 100 new coke cars have been purchased, and 400 old cars have been rebuilt. Three new locomotives have been added to the motive power and six more have been ordered. These details are mentioned because the railroad, though of no significance among railroads, is one of the important adjuncts of the mining and manufacturing interests of the company.

Without offering any predictions concerning the future of the Virginia Iron, Coal & Coke Co., the extent and variety of its resources, the character of its plants and the facilities for assembling materials and distributing products seem to show a more favorable situation for the consoli-

dated interests than has ever been occupied by any of the constituent companies. The mining properties and the furnace plants are scattered through a considerable length and breadth of territory, which is no little disadvantage in operation and administration, but under competent management the entire property ought to be brought into a harmoniously-working organization, capable of earning money, at least under the conditions that now exist. The real test of this and other similar consolidations of large interests will come when pig-iron gets down once more to the values of two or three years ago. The interest charges on \$10,000,000 of bonds, amounting to \$500,000 per annum, will be equivalent to about \$1 per ton of pig-iron produced if the maximum output shall be obtained. At present prices this is not a heavy burden, but a smaller output or a lower price for pig-iron will make a vast difference in the relation of the fixed charges to the gross earnings.

Baird Purchases at Roanoke.

While the consolidation of interests in the Virginia Iron, Coal & Coke Co. is the most significant incident of the year in the Virginia iron industry, there have been several changes in the ownership of iron-making properties which have materially altered the situation. C. R. Baird & Co. of Philadelphia, who have been closely identified with Southern iron interests for several years past as selling agents for a number of furnaces, have lately become producers on their own account. Within the past year they have acquired several properties in Pennsylvania and the East, and two of their latest undertakings are in Virginia. Allegheny Furnace, at Iron Gate, for which they were selling agents, passed into their possession some months ago and has since been operated by them for their own account. This is a 65x13-foot stack, which was first put into operation in 1892, and up to the time of the recent change in ownership was the property of the Allegheny Iron Co. of Richmond, Va.

A more recent purchase by C. R. Baird & Co. is the entire West End property in Roanoke, embracing the Roanoke Furnace and the West End Rolling Mill, or Roanoke Iron Works. This is a property that was created during the stirring times of 1891-2, and has been subject to numerous changes in fortune. The furnace is 82x17 feet, one of the largest in Virginia, has four Massicks & Crooke stoves, and is in every respect a well-equipped plant. Near the furnace is the puddle mill, with fifteen double puddling furnaces and a three-high 22-inch train of rolls, built by the Lloyd-Booth Co. and driven by a Hoover, Owens & Rentschler Corliass engine. The mill building is of steel, and in the construction of the mill, as well as the blast furnace, it is evident that the builders were not hampered by limited funds. In spite of long idleness both plants were in good condition, and comparatively little work has been required to get them ready for operation. The furnace and stoves have been relined and the furnace equipment has been generally overhauled, and in less than six weeks' time the plant was made ready for work. Much less time and work will start the mill. The original plan called for the erection of a plate mill adjoining the muck mill, but with the construction of a steel mill building, 82x308 feet, work was suspended. This building will be removed to the furnace for use as a stockhouse, and pockets will be constructed for ore, coke and limestone, in order to reduce labor in handling material as far as possible.

In addition to this furnace and mill, C. R. Baird & Co. have purchased about 1100 acres of limonite ore property within a few miles of Roanoke, embracing tracts

known as the Sproul and Griffin properties. Development work on this property has been prosecuted with great activity, and in less than six weeks mines were developed to a capacity of shipping enough ore to make 150 tons of iron daily. This capacity will be increased to meet the requirements of a daily output of 200 tons of iron. Ore washers have been erected, railroad connections have been made and mining and shipping facilities have been developed in a surprisingly brief time. It is proposed to erect a Davis-Colby ore-roaster at the furnace, and a block of fifty Semet-Solvay by-product coke ovens is also contemplated. This property is owned by C. R. Baird & Co. of Philadelphia, who, it is understood, will operate it under the name of the Roanoke Furnace Co. F. F. Amsden, late of Buena Vista Furnace, is in charge at Roanoke. The furnace and mill are said to represent an investment of something like \$700,000 by the original owners, but the present proprietors secured the property at a bargain price.

Empire Steel & Iron Co.

The Empire Steel & Iron Co. of New York, which is closely identified with the interests of Rogers, Brown & Co., and which owns a number of blast furnaces in Eastern Pennsylvania, has absorbed several furnace properties in the South. When the company was formed last spring it took in the Victoria Furnace, at Goshen Bridge, Va., on the Chesapeake & Ohio Railroad. This furnace, formerly known as Rockbridge, made its first iron in 1883, was rebuilt in 1892, and has been an active producer except during the worst period of the recent depression. The Cherokee or Carolina Furnace, at Greensboro, N. C., which was built in 1892, but never blown, was also a part of the property upon which the Empire Company was organized. The latest addition to the Southern properties of the company is the Gem Furnace, at Shenandoah, Va., which was purchased from the Shenandoah Furnace Co. in September and is now being put into condition for operation. With each of these three furnaces large tracts of ore property were acquired, and in addition several independent ore tracts have been purchased, so that the company has ample ore resources for its requirements.

Other Changes in Virginia.

Apart from the acquisitions by the various combinations that have been enumerated above, there have been but few changes in Virginia iron properties during the past two years. The Jennie and Polly Furnaces of the Big Stone Gap Iron Co., at Big Stone Gap, are included in the properties scheduled by the Union Steel & Chain Co. Ivanhoe, Longdal, Low Moor, Nannie B., Princess and Pulaski remain practically unchanged so far as ownership is concerned. Among the rolling mills the properties of the Old Dominion Iron & Nail Works Co., the Richmond Standard Spike & Iron Co. and the Tredegar Company continue in operation, virtually unchanged in ownership or management.

Summarizing the changes, it will be seen that within a year fifteen out of twenty-four coke furnaces in Virginia have changed ownership, and two out of seven rolling mills have passed into new hands during the same time. The past six or eight months have been a period of remarkable activity in furnace repairs and operation and in the development of ore and fuel properties. The results of all this work ought to be clearly manifest in 1900 in a very large increase in the output of pig-iron. Under the favorable conditions that now exist next year may fairly be expected to show the largest product ever reached in Virginia.

It is worthy of note, however, that no record is made of any projected new plants in Virginia, which will have some

significance for those who are familiar with the course of iron-making in Virginia during the past ten years.

AMERICA==CHINA==ENGLAND.

Bearing of International Diplomacy upon Commercial Opportunities of the United States in the East.

At its recent meeting at Charlotte the Southern Cotton Spinners' Association recognized a condition of American trade in which the South is vitally interested, and set forth, for the consideration of American authorities, measures to meet that condition successfully and profitably.

The condition is that the development of trade for surplus American-made cotton goods has been largely in China and other Oriental countries; that this development must continue for the benefit of the Southern textile industry, upon which so much of Southern prosperity depends, and that to guarantee its continuance the integrity of the Chinese Empire and all American treaty rights in it must be preserved, and an open-door policy with the commerce of all nations must be maintained.

To strengthen the United States in its progressive trade attitude in the East, and in its position to insist upon the open-door policy in China, Congress and the President are urged to prosecute vigorously the Philippine war to a conclusion and to restore order in the Philippines, and to construct without delay an isthmian canal, and to lay a cable from the Pacific coast to Hawaii, Japan, China, the Philippines and other Oriental points. In addition a revision of American navigation laws, so that the merchant marine may be fostered in handling commerce, the upbuilding of the navy, and, if necessary, co-operation of the American government with those of England and Japan to preserve and protect trade interests and treaty rights for unrestricted commerce in China and Eastern countries, are recommended.

This action by representatives of fifty or sixty Southern cotton mills may be regarded as condensing opinions which are becoming every day stronger in this country. They have found vent in one form or another during the past six months, but it has been left for the Southern cotton spinners to formulate them upon a practical basis. The reason for prompt measures, the incentive of the Charlotte resolutions, is what Mr. D. A. Tompkins, who has led the movement in the South, calls "the menacing policy of Russia." This was elaborated in the letter of the South Carolina cotton manufacturers to their representatives in Congress as follows:

"According to the best of our information the question of the continuance of this trade is a question of policy on the part of our government. Statistics show that 90 per cent. of all the cotton goods exported from the United States to China find a distributing market at the three northern treaty ports of Newchwang, Chefoo and Tientsin. The first named is the treaty port of the great province of Manchuria, already recognized, in the railroad and mining enterprises, as an exclusive sphere of Russian enterprise. The second is the treaty port of the province of Shantung, in which Germany claims exclusive privileges similar to those conceded to Russia in Manchuria. The third is the treaty port of the metropolitan province of Chili, and is the maritime gate of Peking. All three are situated within a comparatively narrow area, but through them is done most of the foreign trade of North China. It only requires one step forward in the extension of the authority

of Russia and Germany to destroy the terms of equality on which the commercial nations of the world participate in the advantages of Newchwang and Chefoo, and the movement on Peking, which is generally assumed to be part of the policy of Russia, would necessarily threaten the commercial interests which center at Tientsin. Up to this time we are informed that pressure brought by the governments of Great Britain and the United States has led Russia to declare its purpose to admit the merchandise of other nations into Manchuria on terms of equality with its own, but it is impossible to say how soon that policy may be changed. It is alleged that in the importation of railroad and other material Russia entirely disregards the Imperial Chinese customs of Newchwang, regarding the port as if it were already in a Russian possession, and it may be that Russia, for the protection of her own trade, may see fit to carry this discrimination to the point of imposing her own customs duties on American cotton goods. In such an event our trade with Manchuria would be seriously handicapped, and might conceivably cease to exist, as did our trade, under like circumstances, with Madagascar. The effect of this would be a far-reaching one to the cotton-mill industry in the South. Up to this time the federal government has shown a disposition to insist on the maintenance of its treaty rights with the Chinese Empire whenever there seemed any danger of their positive infringement. But, as we have indicated, the process of substituting for the authority of the Chinese government the jurisdiction of a foreign power is a gradual and insidious one, and its completion would mark the disappearance of all pre-existing treaties."

This supposed menace to America on the part of Russia, though brought to the front so suddenly, is by no means an unforeseen one. The ground for a belief in its reality may be appreciated in recalling a few developments of the past fifty years in connection with a remarkable forecast of the relations of Russia, England and America made in 1852 by Henry Winter Davis of Maryland, whose strength of intellect is indisputable, however his political career may be regarded. Under the title of "The War of Ormuzd and Ahri-man in the Nineteenth Century," he published a study from his "American" standpoint of the meaning to the world at the close of this century of the formation in 1815 by Austria, Prussia and Russia of the Holy Alliance, the organization of despotism incarnated in Russia against liberty as manifest in the American republic. Two chapters, "The relations of American and English liberty to the Russian dictatorship" and the "American republic and the last war of freedom and despotism," are peculiarly significant. Mr. Davis contended that popular sovereignty is absolutely incompatible with royal sovereignty, and that the Holy Alliance meant a persistent war of the latter against the former. He quoted from men in the service of Russian diplomacy to indicate the attitude of Russian despotism toward American liberty. "The Imperial government," said one Russian authority, "respecting the intentions of American government, has always abstained from attributing the ill-success of its remon-

stances to any other motives than those which flow, if I may be allowed the expression, from the very nature of the institutions which govern the national affairs of the American federation." The nature of these institutions was explained by another diplomatist as follows: "Founded on the sovereignty of the people, the republic of the United States was a fire of which the deadly contact with Europe threatened the latter with conflagration; that as an asylum for all innovators it gave them the means of disseminating, at a distance, by their writings and by the authority of their example, a poison of which the communication could not be questioned, as it was well known that the French Revolution had its origin in the United States; that already troublesome effects were felt from the presence of the French refugees in the United States." At the time when Mr. Davis wrote, Hungary had just yielded to absolutism, and he regarded free England and the American republic as fit marks for despotism realizing the dangers to itself of liberty of the people. He pictured possibilities of Russian and French combinations, of Russia arming Persia, Afghanistan and the Tartar hordes against British India, and said: "Time is for it, and its haste is slow. It will strike vital points at the extremities, worry and weary by long and vexatious and distant contests, compel the putting forth of every power to maintain dependencies which are as necessary channels of English industry as veins are for the blood. If they be cut off the ruin of the center is slowly but surely consummated. Russia is rapidly spreading her actual government over Asia, and her influence spreads far in advance of her government. She is the neighbor of Persia, which is the neighbor of England in India. Her agents flit like demons of the night around the skirts of the English dominions. They were felt and seen in the Afghan war. They can discipline, organize, arm and direct the Tartar, the Persian, the Belooch, the Sikh—better materials for an army than the native troops which, under English officers, form the mass of her Indian army. Russia may thus meet England in her own dominions with troops drawn from her borders and compel her to fight on her own soil for her empire. * * * If, therefore, Russia retain the dictatorship of Europe, the fate of the English Empire depends upon her ability to measure swords with Russia without European allies in Asia Minor, in Egypt and in India, and failure is to England ruinous without a blow struck on English soil."

America at that time was equally threatened, in his opinion, politically and materially, by Russia, then seated in Alaska. Concerning this he wrote: "From her Asiatic possessions, from the Kurile and the Aleutian Islands, she overlooks the natural and necessary course of our Asiatic trade, now by the occupation of California grown to stupendous magnitude, and soon destined to equal that of the Atlantic States. Her naval stations can command effectually the whole intercourse of California and Oregon with the chief seats of Chinese commerce, and render our communications insecure at any moment. She can transfer troops and munitions of war to the coast of Oregon more rapidly than we can from the Atlantic seaboard. She is a military power in direct contact with China, and her influence can stir up the Mongol tribes and pour them like a hailstorm on the feeble and effeminate Celestials. She can now in a great measure balance the influence of England at Peking; her emissaries speak with almost as much authority there as at Constantinople, and a few

years must give her decided predominance. How that control would bear on our commerce with that empire in the events which have been indicated, it takes no prophet to foretell. We should be excluded from those markets, or subjected to burthens which would strip off the profits, impede the activity and finally destroy our Chinese trade, or we should be forced to maintain our position against Russian armies on the spot, across the tracks of Russian navies and at an expense and sacrifice which the most lucrative returns would scarcely compensate. Our interests are as directly opposed as our institutions, policy and principles. Russia is the great wheat country of Europe. To her belong the plains of the Vistula and the vast fields which pour their produce into the lap of Odessa. From these two sources come nearly all the wheat which competes with ours in the European market. She is not a manufacturing power, and shows no signs of becoming such. Her whole population are divided between the plow and the sword, and to cut off or to cripple the commerce of the United States is to rid herself of her chief and only dangerous competitor."

Mr. Davis did not expect any aid whatever from European nations when Russia should assail either England or the United States, or both. But he was convinced that "our fleet, augmented so as to be less scandalously unequal to the resources and the wants of the country, combined with that of England, can sweep our enemies from the face of the ocean." He was for America's not waiting to be assailed, but for the exertion of its influence wherever possible in assisting to cripple the power of which Russia was, in his opinion, the exponent.

Times have changed since the appearance of Mr. Davis' volume. The Holy Alliance has been succeeded by other combinations of European nations as the balance of power has tended to become no more than a featherweight. Democratic experiments have been tried, only to degenerate into radical individualism or military despotism, the result of attempts to manufacture constitutional government, instead of permitting it to develop as a natural growth, and the existence of immense standing armies is virtually a denial of the sincerity of absolutism in its apparent yielding to a demand for a limitation of its power in the government. England still remains, with its shadow of royalty representing the unity of the people, the brightest example in the world of a government guaranteeing liberty of the individual. But England has not always been in her dealings with other peoples a shining illustration of humanity and freedom, co-operating with Turkey in her maneuvers against Russia. Russia, in spite of surface indications, has not been transformed in spirit, and the peace of the world is no more assured by The Hague conference inspired by Nicholas II than it was by the dominance of Alexander I in the Holy Alliance. Russia did not side with the South in the war between the States, as Mr. Davis seemed to expect, but that did not necessarily indicate any vital sympathy of Russia for American institutions, especially when the interest of Russia in unfriendliness between America and England is considered. It should be also remembered that international disputes now turn, not so much upon mere ambition for political and territorial aggrandizement, but upon the desire and the purpose to use the power thus gained in the furtherance of commerce and industry, though the doctrine of the divine right of rulers, whether they be called czar, emperor or dictator, is just as firmly seated in the minds of rulers as ever.

In the meantime, while the United States have succeeded Russia in Alaska, and have joined by railroads the Atlantic and Pacific, the two great nations of Europe have been reaching eastward. England, more strongly entrenched for offensive military action against the United States than Russia ever could be, had already secured a firm seat in China at Hong Kong, and since 1858, when India became a part of the empire, it has been strengthening the defenses of its only possible route to India, obviously with a view to the probability of the Russian advance and the possibility of attempts on the part of the Czar to dominate both the sea and the land routes to the East. To the strongholds of Gibraltar, Malta and Aden, acquired between 1700 and 1840, have been added to England the control of the Suez canal, with occupation of Egypt, Cyprus, not only guarding the entrance to the Suez canal, but balancing the Russian position at Kars, and to be reckoned with should an advance be essayed through Syria to the Euphrates and the Persian Gulf, islands commanding the Strait of Bab-el-Mandeb and the Persian Gulf, and other groups in the Arabian Sea and the Bay of Bengal, convenient to both coasts of India. Russia has pierced the Caucasus, practically dominates Persia, and will have more power than ever if the reports be true that she will build a railroad connecting the Caspian Sea with the Persian Gulf with capital from France, which is already advantageously seated to the south of China in Ton King, Annam, Cambodia and a portion of Siam. Moreover, the great empire, stretching from the Pacific to the Baltic, overhangs in Turkestan, Siberia and Manchuria more than half the limits of China on the west and north, while the Trans-Siberian Railroad is rapidly reaching the completion which will enable Russia to pour troops into China before other interested nations, which, with the exception of England, have practically no land access to the Celestial Empire, have begun to load transports. A natural outcome, therefore, of the Japan-Chinese war of 1894 was the placing of Japan on Formosa, of Germany at Kiou Chau with Russia, possessing greater power than ever fell to the lot of Genghis Khan or Tamerlane, firmly settled at Port Arthur with seventy guns facing Great Britain at Wei-hai-wei, only eighty miles away.

To the United States at Manila the situation across the China Sea is of practical importance. It is to the interest of the United States to derive as much benefit as possible from the future developments of the situation. The manufacturers of this country—the men who have a right to demand that American diplomacy in the East shall be exerted to the advantage of American trade—may be aided in obtaining a broad view of conditions in China by the report to the Associated Chambers of Commerce of Great Britain, made early this year by Lord Charles Beresford as a result of his special mission to the East, almost identical in time with the transfer to the United States of Spanish interests in the Philippines. His report was published under the title of "The Break-Up of China." On its face it was a plea for American co-operation in maintaining the "open door." Substantially it was a plea for American assistance in maintaining the British position in the East against supposititious Russian competition.

This fundamental motive may be traced through the mass of details of trade statistics, essays upon the conduct of Great Britain in her foreign relations, and a mass of minor matter. Lord Beresford is of the opinion that the preservation of the integrity of China, in which the

"trading interests of Japan and the United States are identical with those of Great Britain," will prevent war between European nations, but he is frank enough to confess that "Great Britain would be anxious to help China, not so much for the sake of China herself as for the sake of British interests with regard to the furtherance of trade." He found that British commercial interests in China were suffering because the energy of British merchants is being equalled by others, and because the diligence, frugality and skill of the Chinese themselves are making them formidable trade rivals. These changes, he insisted, must be recognized "in order to keep the preponderance of trade in British hands." The competition of the United States appears in the greater proportion of orders for railway material going to America, but more particularly in developments of the cotton-goods trade. Lord Beresford does not think that the Chinese will be formidable competitors in the manufacture of cotton unless they employ foreign management. They want, particularly in the north, American cotton, because it is made to suit them. For that reason America has, during the past ten years, increased its interest in the importation of plain goods by 121 per cent. in quantity and 59½ per cent. in value, while the interests of Great Britain and India in similar goods has decreased 13.34 per cent. in quantity and 8 per cent. in value. On this point, of peculiar interest to the South, Lord Beresford says:

"There can be no question that this competition of America with Lancashire and India (more particularly with the former) will become keener as time goes on. Ten years ago America's interest in the piece-goods trade with China was confined to her exports of surplus domestic goods—that is, of goods manufactured for home consumption, and which were, for the most part, of too high a standard of quality for general Chinese use. The circumstances are now, however, altogether changed, in that America is rapidly becoming an exporting country, and her manufacturers, seeing the advantages which their nearness to the China market gives them, are directly competing with Lancashire for the trade by erecting mills for the special manufacture of goods suitable for the Chinese market. The great difference between the two percentages of increase in quantity and increase in value shows that a considerably lower standard of goods is being made, which is, of course, to meet the Chinese requirement of cheapness."

Lord Beresford does not think that Great Britain has yet lost ground represented by 64 per cent. of the foreign trade, but he points out that although American interests in Chinese trade is only 8 per cent. of the whole, it is important to remember in what a comparatively short time this has been built up, and also that considerable proportion of British trade is in American commodities.

The threat against British trade, however, does not come from American sources, according to other statements of Lord Beresford. He discovered that British prestige in China is below that of Russia. At Newchwang, the key of the position with regard to the question of the "open door," British residents told him they were much alarmed at the presence of the heavy garrisons of Russian troops, aggregating 120,000 men in Manchuria or nearby Siberia, which might mean that the Russians will impose a tariff on goods when they choose, and he seems convinced that "there could be no question that the Russians are at present in a position of tremendous military advantage in the event of anything occur-

ring which might involve a warm argument as to what was necessary for the proper security of British trading interests" in Manchuria, which amount at present to 15,000,000 pounds, with an upward tendency. The chapter in "The Break-Up of China" devoted to Newchwang ought to be read at length to comprehend the practical reasons for British dread of Russia, although its author denies that his views are anti-Russian, though they may be pro-British; as if, indeed, where China is concerned, anything pro-British could be anything but anti-Russian. He found irritation at Shanghai and Hankow over Russian and French aggression, but the real kernel of the situation is revealed in his words: "The British merchants further pointed out that if Russia openly annexes Manchuria, Korea is cut off and entirely at her mercy. Mongolia would easily be absorbed, and the great horse-breeding ground for the whole of China with it. This would give Russians control over the hordes of irregular cavalry that have before now overrun the whole of China, and also give them control of a hardy and stalwart population of many millions that only need to be drilled and disciplined to make as fine soldiers as any in the world. They also pointed out that if Russians were once in this position there would be nothing to prevent her sweeping down from the north of China to the center and from the center to India, thus paralyzing British trade and commerce."

Though the Emperor of Japan assured Lord Beresford that "Japan and Great Britain will be the countries that will principally benefit" from a development of trade with China, the latter asserted in his book that "as the interests of the United States and Great Britain are absolutely identical in China, an understanding must conduce to the benefit of both great nations, and certainly make for the possible solution of the difficulties. Both nations are essentially trading nations; neither want territory; they both wish to increase trade. With an equal opportunity throughout China they would not only increase their trade, but do much towards increasing the prosperity of the whole world."

Since Lord Beresford wrote Great Britain has entered upon a South African campaign. This movement, begun rather more suddenly than Great Britain expected, was by no means unpremeditated. In the opinion of some persons, it was contemplated even as long ago as the time when Great Britain manifested a friendly disposition toward the United States in Manila Bay, and English success in this latest undertaking depends not only upon the non-intervention in the Transvaal of other great European nations already building empires in Africa, but also upon the neglect of other nations to seize the opportunity to advance their interests at the expense of Great Britain's ambitions in Asia. This opinion regards as a part of one great whole the tacit co-operation of Great Britain with the United States against restless European nations in the war which placed the United States at Manila, the attempted advance of Great Britain against the Boers, and the comparatively sudden steps taken by the United States for the maintenance of the "open door" in China, simultaneously with the reports of fraternal visits of the German Emperor and the Russian Czar, of a disagreement of France and China, of a Japan-Russian dispute in Korea, and the dispatch of five United States vessels, ostensibly to strengthen the forces at Manila.

Whatever may be the significance of these coincidences, whatever may be the destination of American war vessels,

Delagoa Bay or Manila Bay, Hong Kong or the Yang-tse, whatever may be the real basis for a conviction that Great Britain and the United States had an understanding regarding the attitude of Great Britain in the Philippines and of the United States in the Transvaal before the United States moved against Spain, it cannot be denied that the United States is face to face with the question of maintaining its trade with China against the competition of other nations, and that it has an opportunity to gain a stronger position than ever in the East. The specious reasoning of Lord Beresford was hardly needed to demonstrate this, though the volume fitly represents the desire of Great Britain to pose as a philanthropist in its efforts to secure the moral support of the United States in China. The United States, in organizing measures to back up its part of a combination with England and perhaps Japan, should bear in mind certain facts.

Great Britain is an intensely practical nation—almost as practical as the United States. However bland, however kindly and altruistic the utterances of her statesmen may be in elaborating the art of diplomacy for the concealment of purposes abroad, it is not in fact a philanthropist unless philanthropy will pay well. English statesmen never lose sight of the fact that the life of England depends upon the conservation of the integrity, if not the increase, of British trade. Long practice has taught them that success in trade falls to the lot of the party able to drive the best bargain. Therefore Great Britain may always be expected to exert herself to the utmost to drive the best bargain. She will use force where necessary and possible, but where armed force may not be adequate in the face of such complications as the Transvaal war has set before her, she will resort to high-keyed diplomacy calculated to involve her leading competitors in disputes diverting their attention from the main issue, commerce, or to join, upon a plausible theory, some of her competitors to herself, never losing sight of the main object, her own interests.

Mere study of the map of Eastern Asia makes almost unnecessary a consideration of Lord Beresford's statements to prove the danger to British interests in China from Russia. That danger is America's opportunity. Controlling at present 64 per cent. of the foreign trade of China, England has more to lose than the United States, controlling but 8 per cent. of the trade with China, should Russia dominate in the Far East. American co-operation with Great Britain for the purpose of maintaining Great Britain's position in China, as well as in India, may seriously interfere with America's trade with Russia. That trade increased in value during the past fiscal year from \$7,800,000 to \$10,000,000, or 28 per cent., the most marked increase, from \$600,000 to \$1,500,000, or 150 per cent., being in Asiatic Russia. At the same time the trade with China proper increased from \$9,900,000 to \$14,400,000, or 55 per cent., and with Hong Kong from \$6,200,000 to \$7,700,000, or 23 per cent., while that with the United Kingdom decreased from \$540,000,000 to \$511,000,000, and that with Japan from \$20,000,000 to \$17,000,000. These facts, in addition to the statements of Lord Beresford regarding the possibility of China becoming a manufacturer and a competitor with the older textile centers, should have weight in any joint steps taken by the United States and Great Britain.

In their attitude towards Russia the United States should bear in mind that conflicts at arms originating in academic discussions about the divine right of kings

and the sovereignty of the people mirrored in Henry Winter Davis' forecast have been temporarily or permanently lost sight of in contests for commercial and industrial supremacy.

Great Britain undoubtedly needs the United States in China, and needs them badly. The question is, will the United States be benefited more by co-operation with Great Britain than by a contest between Great Britain and Russia, with Japan as an ally of the former, for the dominant influence in China?

It is apparent that for the present, at least, the weight of the United States has been thrown into the English scale. It remains for the United States, in the memory of Venezuela and the Alaska boundary, to keep before them and to adopt the great trade principle of Great Britain, that no influence by force of arms or by moral support should be exerted without adequate compensation.

England's necessity in China is America's opportunity. AN AMERICAN.

RICH ORE DEPOSITS.

Brown Hematite Properties Acquired—A Coal Discovery.

[Special Cor. Manufacturers' Record.]
Anniston, Ala., November 13.

The Alabama Consolidated Coal & Iron Co. has just acquired another tract of very fine brown hematite iron-ore property near the "Hematite" and "Priors" property, purchased some weeks since. The latest purchase is of all the lands of the Polk County (Ga.) Ore & Iron Co. known as the Folger property, and consists of 1500 acres of large and rich ore-beds. The price paid is said to have been \$40,000.

The Anniston Brown Ore Co., with a capital of \$50,000, has just been organized here by E. R. Grasselli of Cleveland, Ohio; John B. Lagarde of this city and others. Mr. Grasselli is president, and Mr. Lagarde, treasurer and general manager. The company has purchased 2000 acres of valuable brown-ore lands in Alexandria valley and acquired several leases on other brown-ore property, including the leases on the Cooper, the Skinner and the Lindsay banks in the western portion of the city, formerly held and operated by the Sligo Coal Co. A 300-ton washer will be erected in Alexandria valley and the total output pushed to about 600 tons a day. The company has long-time contracts for almost its entire product.

On the property of R. B. Perkins, a mile southwest of the city, the edge of a seam of bituminous coal was struck at a depth of sixty-five feet. Other shafts will be sunk at once to ascertain something as to the quantity and quality of the deposit. This is the first coal found within twenty miles of Anniston. There was a thick layer of silicious shale just above the coal seam.

Furnace No. 1 of the Shelby Iron Co. at Shelby has been put in blast. Furnace No. 2 has been in operation for some time. It is the first time that both these furnaces have been in blast at the same time since 1893.

T. C. Williams and associates have a lease on one of the Cooper orebeds in the western portion of the city, and are raising and shipping that famous brown hematite ore in large quantities.

The Alabama Construction Co. has been awarded a large contract for raising ore by the Alabama Consolidated Coal & Iron Co. from the latter's Folger beds.

The output in the Joplin (Mo.) district during the week ended November 11 was 8,323,740 pounds of zinc ore and 1,001,540 pounds of lead ore, valued in all at \$152,726.

A BIG IRON CONSOLIDATION.

The Sloss-Sheffield Combination of Alabama.

The Manufacturers' Record has heretofore given some of the details of the Sloss-Sheffield iron and steel combination, which has been under way for many months, and which has now been finally completed. The prospectus of the company, just issued, gives the following particulars:

The properties to be controlled by the new company are the Sloss Iron & Steel Co. of Birmingham, Ala.; the Philadelphia furnace of Florence, Ala.; the Ensley furnace properties of Sheffield, Ala.; the Gulf Coal & Coke Co. property, and brown-ore properties at West Point, Tenn., and Russellville, Ala. The Corona Coal & Coke Co. property may also be acquired.

The company is to have an authorized capital stock of \$10,000,000 7 per cent. non-cumulative preferred stock and \$10,000,000 common, of which \$6,700,000 preferred stock and \$7,500,000 common stock will be issued for the acquisition of plants and properties, repairs, opening new mines, new washing plants, new coke ovens, working capital, expenses of organization and other cash requirements. The balance of the capital stock of the new company, namely, \$3,300,000 preferred stock and \$2,500,000 common stock, will be reserved for the erection of a steel plant and working capital, and for the general purposes of the company.

The existing bonded indebtedness of the Sloss Iron & Steel Co. is as follows: Six per cent. bonds, \$2,000,000; 4½ per cent. bonds, \$1,835,000, and the properties of that company will be acquired by the new company subject to this indebtedness.

For the purpose of providing funds for carrying out the plan it is proposed to sell for \$2,200,000 in cash \$2,200,000 preferred stock and \$2,200,000 common stock at par.

The prospectus also says that when certain of the properties to be acquired are put in active operation it is estimated that the output of pig-iron will be increased 150,000 tons per annum, which, at \$5.50 per ton profit—the profit now made by the Sloss Iron & Steel Co., which turns out 210,000 tons of pig-iron annually—would increase the annual earnings \$825,000. Of the cash to be provided by the plan, \$962,000 will be available for betterments, improvements and working capital.

A description of the combined properties is given in the prospectus as follows:

"Sloss Iron & Steel Co.—This includes \$400,000 working capital and four furnaces, with a capacity of 200 tons per day each. In addition there are 30,000 acres of ore lands, including the Red Mountain vein of from twelve to fifteen feet in thickness developed at two points; 15,000 acres of coal lands fully developed, with thirteen openings, and a capacity of 5000 tons per day; 6000 acres of coal lands at Bessemer, Ala., undeveloped; 1000 coke ovens, 775 dwelling-houses, twenty-six stores, warehouses and office buildings, and a dolomite quarry, fully developed.

"Philadelphia Furnace.—One furnace at Florence, Ala., with a capacity of 200 tons per day.

"Ensley Furnace.—Two furnaces at Sheffield, Ala., with a capacity of 200 tons per day each; also a contract for the purchase of 14,000 acres of coal lands, with 200 coke ovens, and 13,000 acres of ore-bearing lands, limestone quarries and other property, all of which coal and ore lands and coke ovens are now the subject of litigation.

"Gulf Coal & Coke Co.—This property

consists of about 25,000 acres, containing the Pratt seam of coking coal, about four feet in thickness, as well as a seam of coal known as 'Horse Creek' seam, about eight feet in thickness. This property has been purchased from time to time from small holdings, covering a period of over twelve years, and is situated a few miles from the junction of the Northern Alabama Railroad with the Southern Railway. This property is easy of development, since both seams of the coal are above drainage level, and the extension of the road from Paris Junction, Ala., to a point about seven miles south would furnish sufficient railroad frontage to easily put the property to a capacity of 5000 tons per day within a reasonable time.

"Corona Coal & Coke Co. (if acquired, to be by means of the issue of so much as may be necessary of the \$3,300,000 of preferred and \$2,500,000 of common stock reserved).—This property is situated on the line of the Southern Railway, seventy miles west of the Birmingham district. The coal is hard coal, especially adapted for shipping. This property consists of about 16,000 acres, developed to a capacity of about 1200 tons per day; six openings and a full equipment of miners' houses, commissary and mine equipment.

"Brown Ores.—Brown Ore is at West Point, Tenn., on the Louisville & Nashville Railroad, twenty-nine miles north of Sheffield, containing 20,000,000 tons of ore, yielding 50 per cent. metallic iron. It is now being worked regularly to supply Sheffield furnaces. Also a property at Russellville, Ala., on the line of the Northern Alabama Railroad (Southern), located twenty-one miles south of Sheffield, with 5000 acres of brown-ore lands, partially developed, yielding 50 per cent. metallic iron when well washed. The quantity of brown ore that can be mined from the Russellville district is not known, but it is estimated by various experts to be as much as 50,000,000 tons. This ore is also being used now at the Sheffield furnaces."

The prospectus is signed by Edmund W. Rucker, John C. Maben, Joseph Bryan, Richard Mortimer, W. H. Goadby and John A. Rutherford.

INCREASING THE CAPACITY.

Prospects of Greater Output of Iron at Birmingham.

[Special Cor. Manufacturers' Record.] Birmingham, Ala., November 14.

There is no change to note in the iron market. Prices are about the same as last reported and with the usual elasticity that accompanies the conditions of the present market. No. 2 foundry still ranges from \$17.50 to \$18; No. 1 foundry, \$18.50 to \$19; No. 3 foundry, \$17, and gray forge, \$16. Several hundred tons of charcoal iron sold at \$21.50. The business of the week came altogether from moderate and small orders and there was an absence of activity in demand. It is only a reiteration of former statements to say that the condition of the order-books is preventive of a large business, for they are well filled for first half of 1900, and buyers, whose wants are mainly for that delivery will hesitate to go in for last half of 1900 until this hesitancy is overcome by a stronger feeling of confidence in the maintenance of prices. As a cold-blooded business proposition, the law of supply and demand governs trade and regulates prices. Months ago experts figured out that the requirements of the trade for a year would be 14,000,000 tons. Until now production was on a basis materially less than that.

Practically the capacity of the furnaces has been absorbed, inclusive of the first half of 1900, and we know that large in-

terests have not yet covered their requirements for next year. It is only a question of time when they must do so, and when they do they must accept the deliveries they can get. Well, with a capacity of 14,000,000 tons and sales covering all the first half of 1900 and well into second half, with the requirements of large interests unsatisfied and furnace yards practically bare, won't results prove the truth of the assertion that there is no likelihood of decreased prices until stocks begin to accumulate in furnace yards? Where is there any prospect of that from the above showing during 1900?

The information that probabilities pointed to an increase of furnace capacity here proved correct, and before those determined upon for Thomas are completed others will be commenced. It is a safe prediction to state that in the course of five years the number of furnaces then in operation and in course of erection will be double the number now in blast. Reports have been current of the conclusion of negotiations for the sale of the Woodstock furnaces, at Anniston, but the president of the Alabama Consolidated Coal & Iron Co. denies that his company has secured them. That negotiations for their control are in progress seems very probable. The Trussville Furnace will probably be in blast this week, with output for a year sold in advance. The Williamson Furnace is being repaired fast as possible. The Mary Pratt Furnace will be overhauled soon as material can be obtained. The finishing touches are being put on the steel mill, and steel will be making in all probability when this is printed. Indications point to large improvements at the Sloss Furnace, at North Birmingham. A steel mill there at an early date is a certainty.

The preliminary work of the Dimmick Pipe Works plant has commenced, and work has commenced on the building of the Leak Terra Cotta Works. Everywhere in the district things indicate progress and the investment of large capital, yet we are only on the threshold of what is to be.

J. M. K.

Eastern Iron Markets.

[Special Cor. Manufacturers' Record.] Philadelphia, November 15.

A rather excited condition of the iron market exists in Eastern Pennsylvania at present time, owing to influences from outside markets chiefly. The present rush of business was not expected. Pig-iron is extremely strong and likely to advance. Quotations for No. 1 foundry are \$25.50 to \$26; No. 2, \$24.50; mill iron, \$20 to \$20.50; basic, \$23.50; Bessemer, \$26, and low phosphorus, \$28. These are today's quotations, but tomorrow's may be different. Very large transactions are presented in steel billets at prices somewhere between \$40 and \$42. In reference to merchant iron, premium prices are still being paid by needy buyers, and a good deal of material is being wanted in Western markets from this end of the State. The urgent requirements of car builders are crowding buyers in and exceptionally high prices have been contracted for recently. Common iron is 2.20 to 2.25; refined iron is 2.25 to 2.30; test iron, 2.30 to 2.40, and steel bars, 2.60 to 2.75. Despite the talked-of dullness in sheet-iron, a good deal of business has been done at full prices. In pipes and tubes mills are crowding through orders and are not soliciting new business. A great deal of new business in boiler tubes is being offered, but a little only was accepted this week. Muck bars are selling at \$31. For a few days past very little has been done in merchant steel, but within twenty-four hours inquiries have been received from large New England consumers desiring to close contracts on

terms named a month ago. If these prices still hold, big orders will be placed at mills before the close of the week. The conditions named heretofore for the past two or three months in the plate mills still continue, and heavy orders will be placed just as soon as mill-owners can make room for them. One-quarter-inch plate is about 3 cents; shell, 3.25; flange, 3.30; fire-box, 3.40 to 3.50. There is nothing in the rumor that any shading in steel plate is in contemplation. Very little fluctuation is noted in structural material. About the only business done this week has been in small orders at premium quotations. Manufacturers, naturally, hang back in order to accommodate very urgent customers. There is an extraordinary degree of inquiry for all kinds of old material, old steel rails, old iron rails and scrap. Steel scrap is \$22; steel rails is \$25; iron rails, \$27; choice yard scrap, \$22; No. 1 scrap, \$26.50; steel axles, \$30 to \$32. The general prosperity of the country is opening up a wider field for the distribution of iron and steel, and every indication points to a winter of extraordinary activity.

The Iron and Metal Trades.

[Special to Manufacturers' Record.]

New York, N. Y., November 15.

In its review of the week the Iron Age says:

"On the whole the week under review has been a quiet one. In the raw materials the situation is unchanged. The greater part of the coke supply for next year has been contracted for on the basis of \$2.65 and \$2.75 for furnace coke at ovens, while the ore contracts for next year have not yet been closed.

"In pig-iron there has been continued activity in Chicago, but in the other distributing markets the volume of business has not been large. In the Central West the only large transaction has been the sale of about 40,000 tons of metal, the parties to the transaction being allied interests.

"Rumors have been current to the effect that one very large transaction in steel billets between two leading interests has been closed, but the evidence points to the fact that the sale has not gone through. It is quite evident that the rush for prompt delivery on steel billets is over, and that heavy premiums are not being paid for prompt steel. This is putting an end to the high nominal prices. This creates the impression of a decline, when, as a matter of fact, the figure at which new contracts for 1900 delivery are being entered into, say \$36, Pittsburg, is a heavy advance on the figure at which old contracts now expiring were taken.

"Chicago reports a sale of 25,000 tons of wire rods for export, and it appears also that a leading consumer has contracted for a very large quantity for the first half of 1900.

"In the West there have been good sales of steel rails, one of the orders calling for sixty miles of light rails for a new Utah road. It is reported also that a Western mill has contracted for the delivery of a heavy tonnage of girder rails for Glasgow, Scotland.

"The specifications have been issued for the wire cables for the new East river bridge at New York, the quantity of high-grade wire called for being about 5000 tons. In this connection it may be noted that there is a possibility that the great North river bridge may soon get beyond the stages of a project.

"The iron trade is watching keenly developments in the New York Rapid Transit project, which would bring out a very large amount of work.

"Generally speaking, there is a good deal of figuring going on in our large cities on structural material for sky-scrapers, which indicates that current prices are

not cutting off important undertakings in this line.

"Philadelphia is now committed to a heavy outlay for a new water supply, which means some big requirements for cast-iron pipe.

"The Western bar mills are still in receipt of nice orders from car builders, who are still entering new business heavily. In other departments of the finished trade, however, the demand is slackening, and makers are drawing on their heavy supply of old orders. In some branches, however, the scramble for orders is getting lively. This applies particularly to the sheet mills, who are selling at close figures, considering the current prices for steel. Steel plates, too, are selling at lower prices.

"We are now rapidly approaching the period of the year when the actual consumption of iron and steel in many branches of the industry falls off quite heavily, but preparations are always made during this time to accumulate a supply for the spring trade, always the largest in volume of the year."

EXAMINING THE CATAWBA.

Experts Studying the Stream's Water Power.

[Special Cor. Manufacturers' Record.] Charlotte, N. C., November 14.

Concord, a neighboring mill town, affords an evidence of the eagerness of capital to invest in cotton-mill enterprises in the South. A few weeks ago Mr. Robert E. Gibson started a movement for a new mill in Concord. He fixed the stock at \$100,000 and opened subscription books. The first run resulted in a subscription of very nearly \$150,000, and more to come. In consequence, Mr. Gibson will very likely start his mill with a capital stock of \$200,000 instead of \$100,000, as at first intended. Thirty acres of ground have been purchased for the site on the main line of the Southern, just west of the big Odell mill settlements. The property lies on both sides of the railroad.

The visit to Charlotte during the past few days of three water-power experts, representing New York capital, has aroused a reasonable hope that the immense power of the Catawba river, twelve miles from Charlotte, is at last to be utilized. The experts examined the fall and the volume of water, and found what has been known for years, that the Catawba at this point affords one of the finest undeveloped water-powers in the South. They have made a very favorable report to New York, and the moneyed men of the enterprise are expected here within ten days. This proposed investment and development will be on a larger scale than the Yadkin water-power plant, as it will mean an electric railway of twelve or fifteen miles, connecting Charlotte, Mt. Holly and Mountain Island, in addition to supplying electric power and light for the mills and towns. This will very probably turn out to be the most important industrial development of the year in North Carolina. The General Electric is behind the entire scheme, and proposes an investment of \$2,000,000 on the plant.

The report of State Mine Inspector Geo. E. Quimby of Missouri on mining conditions in Jasper, Newton and Lawrence counties during the fiscal year ended June 30, 1899, shows that the value of lead and zinc mined was \$5,476,920 in Jasper county, \$465,454 in Newton county and \$767,805 in Lawrence county.

The Chamber of Commerce of Chattanooga, Tenn., will appoint a committee to co-operate with the Young Men's Business League in promoting the industries of the city.

FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

More Flour Shipments.

The steamship Gylar has recently cleared from Galveston with a cargo of 6800 barrels of flour for West Indian ports. As recently stated in the Manufacturers' Record, representatives of Cuban firms have been making inquiries in the Southwest as to the possibilities of building up an export freight trade with the West Indies. This shipment is an indication of its possibilities.

The cargo of flour recently cleared from New Orleans for Great Britain on the steamship Meridian consisted of 66,250 sacks. This represented 4701 tons. In addition the vessel carried 24,000 bushels of wheat and a quantity of miscellaneous cargo. The flour came by rail over the Kansas City, Fort Scott & Memphis Railroad, and is the product of Western mills.

Prospective Market for Southern Coal

One result of the strike in the Welsh coal-mining district has been to increase the coal export trade from this country. Readers of the Manufacturers' Record will remember that some time ago extensive shipments of coal were made upon the order of the British Admiralty to various ports in Great Britain and the colonies. As a result of the last strike, two vessels have recently been chartered to carry coal from Philadelphia to South Africa and Japan. It is probable that Southern coal shipments may be considerably increased by this demand, as the West Virginia, Alabama and other grades have met with much favor abroad.

Passenger Business to Europe.

The new steamship Koln of the North German Lloyd service has made her initial trip to Galveston with passengers and freight. The Koln is one of the largest and finest ships which has yet entered this port. She is of nearly 5000 tons register, is 430 feet long and fifty-four feet beam. She has accommodations for cabin and steerage passengers, and can carry 20,000 bales of cotton. The North German Lloyd Company has appreciated the opportunities for direct passenger business to Europe from the Southwest, and is catering for it by placing some of its best vessels on this route.

Improving Brunswick Channel.

The last report of the engineers in charge of the improvements to the ship channel at Brunswick, Ga., show that the work done by Charles P. Goodyear has deepened it from one to two feet. An examination was made by the United States coast survey, upon which the report is based. This indicates that Mr. Goodyear's method of removing the sand bar which existed by means of explosives is at least partially successful.

New Vessel for the Lord Line.

The Lord Line of steamships, running between Baltimore and Great Britain, will be increased by a vessel which has recently been launched at Belfast. The ship is 405 feet long, and will have a cargo capacity of about 7500 tons. The addition is acquired on account of the steadily-increasing export business which this line carries.

Steel and Cotton for Asia.

The diversity of exports to the Asiatic market is strikingly indicated by the cargo of the steamship Olimpo, which re-

cently loaded at Sparrow's Point, Md., and Galveston, Texas. At Sparrow's Point the vessel took on 2800 tons of steel rails, and at Galveston finished her cargo with cotton. The rails will be used for the Siberian system, and will be unloaded at Port Arthur. The cotton is intended for the Japanese market.

Jottings at the Ports.

The steamship Grande Duchesse has been added to the Southern service of the Plant Steamship Co., and is now running between New York and Savannah.

The export business to Mexico from New Orleans is furnishing the Mexican Gulf steamship line large export cargoes. They include machinery, provisions, also grain.

Mr. A. C. L. Dewulffs of Copenhagen writes to the Manufacturers' Record that he desires to get into correspondence with exporters of indigo and manufacturers of chemical dyes and anilines.

Surveys are being made by United States engineers along the route of the proposed inland channel on the Texas coast. The chain of lakes and bays now existing may be connected by a series of canals.

The steamship Comus, recently launched at the Newport News shipyard, is the sixth vessel placed in the water this year by the Newport News Company. This is one of the order being filled for the Cromwell Line, and will be used on the route between New York and New Orleans.

The October report of exports from Galveston shows that business continues increasing from this port. The increase in value as compared with October, 1898, was \$2,685,000. Of this, \$1,348,000 was represented by cotton shipments, \$577,000 by wheat shipments and \$303,000 by corn shipments.

A report has been current in New York that the Seaboard Air Line contemplates placing a fleet of vessels of its own between Tampa, Fla., and West Indian ports in connection with its winter service between New York and the South. A director of the Seaboard Air Line informs the Manufacturers' Record that no such arrangements have been made, and that there is no ground for the report.

The voice of Olive Schreiner rings true and clear for liberty for her country and her sex. Of all the champions of the Boers in their present difficulty with England, none is more logical and more fervent than the famous author of "The Story of a South African Farm" and "Dreams." Mrs. Schreiner brings into the fight for her countrymen the same brilliant logic, high intelligence and remarkable talent that she has displayed in the November Cosmopolitan Magazine in her article on "The Woman Question." She has made this subject a special study for ten years, and pleads the cause of her sex with a loftiness of purpose and a strength of argument that will command instant and world-wide attention. The article is the most notable pronouncement on this eternal question that has been printed in the last ten years. It will be concluded in the December number.

On November 9 the Newport News Shipbuilding & Dry-Dock Co. launched the sixth large vessel which has been built by it this year. The vessel was the steamship Comus for the Cromwell Line service between New York and New Orleans.

The Texarkana, Shreveport & Natchez Railroad Co. has completed its route between Texarkana and Shreveport, a distance of seventy-five miles, and trains are now in regular operation.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Jacksonville & Southwestern.

Train service has been established on the Jacksonville & Southwestern Railway, which has been completed between Jacksonville, Fla., and Lake Butler, a distance of fifty-four miles. This line, which has been fully described in previous issues of the Manufacturers' Record, will reach the extensive phosphate district in Alachua county, as well as tracts of valuable timber land. The Cummer Lumber Co. of Jacksonville has been one of the principal promoters of the enterprise. The road has been surveyed into Alachua county a distance of thirty-five miles from its present terminus, and this portion of the line is in process of construction. The officers of the company are as follows: President, James M. Barnett of Grand Rapids, Mich.; first vice-president, Jacob Cummer of Cadillac, Mich.; second vice-president and general manager, W. W. Cummer of this city; treasurer, Harvey J. Hollister of Grand Rapids; secretary, A. G. Cummer of Jacksonville; superintendent, Waldo E. Cummer of Jacksonville; superintendent of construction, George L. Davis; general freight and passenger agent, Smith D. Pickett; general agent, O. P. Love.

Guyandotte Valley Road.

The Manufacturers' Record is officially informed that work is about to begin upon the Guyandotte Valley Railroad, and that estimates have been made of the material needed for the first thirty miles. George McKendree, chief engineer at Huntington, W. Va., will receive bids until November 28 for grading, masonry, ties, trestling, also ballasting and rails. About 3800 tons of rails will be required, weighing seventy-five pounds to the yard. This line, which has been referred to in advance issues of the Manufacturers' Record, is to extend from Huntington along the Guyandotte valley, reaching extensive deposits of coal, as well as a large area of timber land. At Huntington it will connect with the Chesapeake & Ohio system, also the Ohio River Railway, and report has associated the enterprise with an extension of the Cincinnati, Hamilton & Dayton in Ohio, which, it is understood, contemplates building a bridge across the Ohio river at Huntington to connect with the new road. J. L. Caldwell is president of the Guyandotte Valley Railroad Co.

More Cars for the Southern.

Vice-President Frank S. Gannon of the Southern Railway Co. announces that it has recently received 1000 box cars and 500 coal cars for use in its territory, while 1000 more freight cars will be delivered to it next month. Mr. Gannon also states that the Southern will give an order for 2500 additional cars on December 15. The new rolling stock is absolutely needed in order to carry the freight business offering. The traffic, according to his statement, at present is unprecedented in the history of transportation.

Service to the South.

The Southern Railway Co. announces that, beginning December 10, its line through South Carolina to Savannah will be completed and its through car service will be operated in connection with the Plant system south of Savannah, Ga., and the Florida East Coast Railway to and from points on the east coast of Florida, with direct connections to and from Key West, Fla., Havana, Cuba and Nassau,

N. P., via Miami, Fla., in connection with the Florida East Coast Steamship Line, and in connection with the Plant system south of Savannah, to and from other points in Florida, including points on the west coast, with direct connections to and from Key West and Havana via Tampa, Fla., in connection with the Plant Steamship Line.

Southern Railroad Earnings.

The Financial Chronicle's report of railroad gross earnings for October contains some extremely interesting figures relative to the traffic of Southern and Southwestern systems. The decrease in the movement of cotton is to a certain extent reflected in this report, the Missouri, Kansas & Texas showing a decrease of about \$90,000 for the month as compared with 1898. There is a notable increase, however, in the lines carrying miscellaneous freight, which is a significant indication of the general business activity in the South. For instance, the Southern Railway shows a gain of \$385,000, the Louisville & Nashville \$381,000, the Illinois Central is also notable for an increase of \$442,000, and the Norfolk & Western for \$152,000. The increase in earnings of the principal lines in the South for the month was about \$1,200,000.

Western Maryland May Be Sold.

The finance commissioners of Baltimore have under consideration the question of selling the city's interest in the Western Maryland Railroad. A New York syndicate, reported to include R. C. Flower and James Kitchen, has made a proposition to pay \$4,485,000 for the line and assume the floating debt. It is claimed that if sold the Western Maryland will form a portion of a new route from the West to Baltimore.

Railroad Notes.

Mr. Randall Clifton has been appointed district passenger agent for the Southern Railway Co., with offices at Savannah, Ga.

The railroads entering Atlanta, Ga., have determined to appoint a superintendent of terminals. Charles A. Harman will probably be the official.

A new sleeping-car route has been established between St. Louis and San Antonio, Texas, over the St. Louis & San Francisco, the Gulf, Colorado & Santa Fe and the International & Great Northern Railroad.

The Alexander & Rich Mountain line has been sold to Hart Bros. & Co. of Clarksburg, W. Va., for \$39,000. This line extends from Alexander Junction to Rich Mountain, in West Virginia, a distance of twenty-three miles. It has been used by the Alexander Lumber Co. as a logging road.

A dispatch from Norfolk, Va., is to the effect that arrangements are being made to build the Princess Anne, Cape Henry & Lynnhaven Bay Railroad. It is proposed to construct it from the terminus of the Norfolk & Southern at Virginia Beach to Cape Henry, a distance of seven miles. James R. Werth, formerly president of the Farmville & Powhatan Railroad, is taking an active interest in the project.

The November issue of the "Official Railway Guide" is replete with information essential to the traveler. A number of railway companies have placed their winter schedules in service, and these are contained between the covers. In addition to its tables of American roads, it contains information relative to lines in Cuba, and is in every respect thoroughly up to date and accurate. It is a work that no railroad man should be without.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

AN 8,709,690-BALE CROP.

Latest Cotton Estimate of Messrs. Latham, Alexander & Co.

Messrs. Latham, Alexander & Co. of New York, under date of November 15, send out the following letter in regard to the cotton crop:

"Having received many letters of inquiry concerning the probable total cotton crop of the United States for this year, on November 1 we mailed 4200 letters to selected and reliable correspondents—banks, bankers, cotton commission merchants, brokers, proprietors of public gins, railroad officials and planters, covering every cotton-growing county in the South—seeking the information.

"Up to this date, in response to our letters, we have received 2800 replies of average date November 7, which we consider as reliable as any information that can be obtained on this subject, and we tabulate as follows.

"Estimated total crop this year as compared with last year:

	Crop 1899-1900.	Crop last year.
Average of 297 letters makes decrease in Alabama 17 per cent., or crop of.....	961,970	1,159,000
Average of 240 letters makes decrease in Arkansas 30 per cent., or crop of.....	583,900	834,000
Average of 23 letters makes decrease in Florida 10 per cent., or crop of.....	63,000	70,000
Average of 566 letters makes decrease in Georgia 19 per cent., or crop of.....	1,244,160	1,536,000
Average of 116 letters makes decrease in Louisiana 14 per cent., or crop of.....	507,400	590,000
Average of 299 letters makes decrease in Mississippi 12 per cent., or crop of.....	1,339,360	1,522,000
Average of 233 letters makes decrease in North Carolina 23 per cent., or crop of.....	448,910	583,000
Average of 263 letters makes decrease in South Carolina 22 per cent., or crop of.....	789,360	1,012,000
Average of 135 letters makes decrease in Tennessee 23 per cent., or crop of.....	318,780	414,000
Average of 623 letters makes decrease in Texas, etc., 31 per cent., or crop of.....	2,452,950	3,555,000
	8,709,690	11,275,000

"Two thousand one hundred and forty correspondents report that the crop has been more rapidly marketed, or shipped to market as quickly as in former years.

"Four hundred and forty-two correspondents report that from 5 to 15 per cent. more than last year has been held on plantations, towns and cities for higher prices.

"Our special agents, who have been traveling through the South for the past month to ascertain the true condition of the cotton crop, fully confirm the foregoing estimates."

The Negro Cotton Mill.

New England textile interests, judging from their organs, are awaiting the outcome of the experiment to be made by the Coleman Manufacturing Co. at Concord, N. C., with a mill to be officered and operated by negroes. The mill is expected to begin operations this month, and the Boston Journal of Commerce expresses a belief that should the experiment be successful there will be a radical change in the present working conditions of Southern cotton mills. It says:

"The cotton mills of the South are now experiencing great difficulty in securing sufficient help to keep their mills running,

and there are quite a number of them that would be very glad to make extensive additions to their plants could they secure the necessary help to operate them. There never was a time when there was such a scarcity of cotton employees as is the case at present, and if by the use of colored help the mills will be able to operate their machinery as well as is done by white people, it will greatly relieve many of them and give them a chance to increase the amount of their production."

Yarn Mill of 10,000 Spindles.

Mr. William Parker of Cedartown, Ga., advises the Manufacturers' Record that the proposed mill of himself and associates, recently reported, will be located at Cedartown, Ga. Site has been selected and the work of erecting buildings will be pushed rapidly, so that the machinery can be in place for operation by next spring. The plant is to be one of 10,000 spindles for the production of hosiery yarns, employing 250 hands, and capacity per week being 60,000 pounds. Its cost will be from \$160,000 to \$200,000. Mr. M. O. Berry of Columbus, Ga., will be president; A. W. Birkbeck, secretary-treasurer, and William Parker, manager, the two last named being of Cedartown.

Cotton Movement.

In his report for November 10 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the seventy-one days of the season was 3,385,007 bales, a decrease from the same period last year of 716,924 bales; the exports were 1,502,704 bales, a decrease of 390,740; takings by Northern spinners were 588,296 bales, an increase of 169,316; by Southern spinners 325,040 bales, an increase of 32,583 bales. The great decrease in exports is in those to Great Britain, amounting to nearly 400,000 bales.

8000 Round Bales.

The steamship Gymeric sailed November 9 from Galveston with 7540 of the American Cotton Co.'s round-lap bales for Havre and 500 for Dunkirk.

Textile Notes.

Arrangements for the erection of a \$60,000 cotton factory have been completed by T. A. Copps of Toccoa, Ga.

The Trion Manufacturing Co. of Trion Factory, Ga., has contracted for the erection of a large brick warehouse for cotton storage and other purposes.

Messrs. L. M. Brand, W. G. McNelley, W. E. Simmon and others of Lawrenceville, Ga., will organize a company for the erection of a 5000-spindle cotton factory.

A movement has been started at Tupelo, Miss., for the organization of a \$200,000 cotton-factory company. The leading business men are promoting the enterprise.

The Burroughs & Taylor Co. of McMinnville, Tenn., is rebuilding its picker and dyehouse, which were destroyed by fire several weeks ago. All the necessary machinery has been bought.

An effort will be made for the organization of a cotton-factory company at Camilla, Ga., and Mr. T. R. Bennett will be interested. Mr. Bennett is seeking information concerning mills, estimates on cost of erection and equipment, etc.

Mr. Fred. Cockrell of Abilene, Texas, informs the Manufacturers' Record that the feasibility of erecting a cotton factory is now being considered by the business men of his city. The projectors of this factory are desirous of interesting a practical man who will invest.

The Mutual Aid Society of Lagrange, Ga., has purchased through its representative, Mr. Cicero Revis, 150 acres of land near Lagrange. It is stated this association is composed of negroes, who intend using the land bought as site whereon to build a cotton factory which will be operated by negro labor.

A Georgia party has in view the erection of a hosiery mill for the production of 500 dozen ladies' hose daily. General information is wanted concerning such mills and estimates on cost of complete equipment of machinery required. Letters addressed to "Hosiery Mill," care of Manufacturers' Record, will be forwarded.

Mr. A. L. Lowry of Hillsboro, Texas, states that he and associates do intend to build a cotton factory, as has been reported. A \$50,000 enterprise is contemplated, and much of the required capital has been subscribed. Mr. Lowry is now ready to hear from contractors and manufacturers relative to estimates on complete plant.

Application has been made for the incorporation of the Ellawhite Cotton Mill of Uniontown, Ala., with capital stock of \$100,000, its purpose being, as indicated by title, the erection of a cotton factory. Messrs. R. F. Hall, J. C. Moss, A. C. Davidson, J. H. White, G. B. Johnston, W. H. Taylor and others are among the incorporators.

Mr. L. M. Park of Troup Factory, Ga., has overhauled and improved the Troup Factory, which he purchased recently, and will operate it as the Park Cotton Mill. Two new 60-horse-power boilers have been added, also an engine, and some necessary replacements were made. The mill has fourteen cards, fifty-two looms and 1600 spindles.

Mr. J. Howard Bromley of Philadelphia, Pa., has addressed Mr. W. B. Crawford of Beaumont, Texas, relative to the formation of a \$100,000 stock company for the removal of a textile mill to Beaumont. The plant would have 100 looms, five winding frames, dyeing and finishing machines, etc., and produce dresses, suitings, trouserings, etc.

Messrs. A. E. Yates and J. H. Pratt of Atlanta, Ga., mentioned last week as having purchased the factory of the Anniston Bag & Mill Co. at Anniston, Ala., have organized the Pratt & Yates Bag Co. The company will enlarge the mill and put in new machinery to increase capacity. Present output daily is 50,000 flour and meal bags and 10,000 miscellaneous bags.

The Gibson Mill of Concord, N. C., reported several months ago as to be formed with \$100,000 capital, will have capital stock of \$200,000, instead of the amount at first proposed. This increase was decided upon because subscriptions were readily obtained for much more than the \$100,000. A site of thirty acres has been bought for the enterprise. Details as to equipment will be decided soon. Mr. J. W. Gibson is president.

The knitting mill previously reported as to be established at Jacksonville, Fla., by Mr. A. G. Bigelow and associates is now in operation. It is known as the Jacksonville Knitting Mills, and operates five knitters, with a capacity of fifty dozen ladies' underwear garments each per day; five sewing machines and five finishing machines are also in place, and motive power is supplied by electricity. It is likely that more machinery will be added soon. Mr. W. P. Shaver is manager.

On one day last week 1,750,000 bushels of West Virginia coal started from the mouth of the Great Kanawha for Cincinnati.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, N. Y., November 15.

The cotton-oil market is in a position of uncertainty at the moment with regard to the future. The fluctuations and downward tendency of the hog and beef fat markets, together with other causes which have developed within the past few weeks, are responsible for the unsettled state of the market. No important change has taken place in cotton-oil prices, notwithstanding the easy market and freer offerings. Lard for January delivery, Chicago, is quoted at 5.27½ cents, and tallow, spot, No. 1, 4½ cents, and No. 2 4 cents. The statistical position of the hog market would indicate that the fewer receipts as compared with a year ago favor a stronger market, and that lard will go up. Hog receipts in Chicago during last week, for example, were 164,000, as compared with nearly 200,000 for corresponding week a year ago. Throughout the South the cotton-oil market is easier, as well as at this point. The depression is due to the fact that the prices which have been quoted were relatively too high when the question of seed values is considered. It has been discovered that the different grades of oil could not be used profitably at these prices in the various compositions made by use of them, referring especially to compound lard and certain grades of soap. The export demand has improved slightly, but freight-room accommodation is difficult to secure, even at the high rates prevailing, the cause being primarily the number of vessels which have been taken off their regular sailings for service in the South African trouble by the British government. Prime crude is selling in tanks at 21 to 22 cents; prime summer yellow, 26¾ to 27½ cents; off summer yellow, 26¼ to 27 cents; butter grades, 29 cents; prime winter yellow, 30 cents; prime white, 30 cents, and soap stock, 80 cents per 100 pounds. Reports from abroad are to the effect that a good consumptive demand for cotton oil prevails, prices being well maintained, especially in Great Britain. Cotton meal is lower in price, although other mill feeding stuffs are selling well at good prices. This appears anomalous, especially when the merits of cotton meal as compared with other forms of artificial feeding and fertilizing materials are considered.

Concerning the acreage and crop of cotton, it is worthy of note that, according to the Department of Agriculture's monthly report, an acreage of 23,500,000 is indicated, the crop being 9,500,000 bales.

Cottonseed-Oil Notes.

The Bartlett Oil Mill Co. of Bartlett, Texas, has been chartered, with a capital stock of \$30,000.

It is stated that the West Huntsville Cotton Mills at Huntsville, Ala., will establish a large oil mill in West Huntsville, to be operated in conjunction with the cotton mill and round-bale compress.

The Gonzales Cotton-oil Mill at Gonzales, Texas, started up on the 8th inst. The company has over 4000 tons of seed on hand. The capacity is forty tons per day, and the plant will run day and night.

The steamship Recta cleared from Galveston, Texas, last week for Rotterdam with 4614 barrels of cottonseed oil, 8947 sacks of cottonseed meal and 1741 sacks of cottonseed cake, with other cargo. The steamship Newton Hall for Bremen

cleared from the same port with 29,535 sacks of cottonseed meal and other cargo.

The Wilson Oil Co. of Wilson, N. C., has nearly completed its extensive plant, and expects by December 1 to be ready to turn out the finished product. The company is receiving large consignments of cottonseed.

The cotton-oil mill at Fort Smith, Ark., has been completed and is now in operation. The mill has a capacity of 100 tons per day, and will employ sixty men. The officers of the company are G. M. Henson, president, and W. M. Feigle, manager.

Representatives of a number of cottonseed-oil mills in the Piedmont section met on Monday last in Charlotte, N. C., and effected an organization to be known as the Piedmont Seed Crushers' Association. Mr. Thos. J. Martin of Chester, S. C., was elected president, and Dr. J. P. Munroe of Davidson, N. C., secretary. After some routine business the meeting adjourned, subject to the call of the president.

The Union Cottonseed Oil Co. has recently installed at its large Crescent mill at Gretna, opposite New Orleans, a plant for rapidly unloading cottonseed from barges. The main part of the system is a belt conveyor running on trestle work along the wharf, and thence under the roof of the mill. Along this conveyor the seed is carried from the end of the wharf 250 feet to a point in the mill, where it is weighed and distributed direct to the crusher.

The annual report of the board of directors of the American Cotton Oil Co. for the fiscal year ending August 31, 1899, has been received, and among the leading features are the following: The profits for the year amounted to \$1,888,254.58, and after deducting debenture interest, \$240,440, leaves net profits \$1,637,814.58. Deduct dividends on preferred stock, 6 per cent. per annum, \$611,916, and dividend on common stock, 4 per cent. per annum, \$800,484, amounting to \$1,412,400, leaves a balance of \$216,414.58 carried to general profit and loss account. The permanent investment account has been charged with the sum of \$201,473.73 for additions to the properties, such as seed-houses and scales, warehouses for products, barges, cotton ginneries, extensions to refineries and soap plants, refrigerating plant, storage tanks, new laboratories, automatic sprinklers and other improvements incidental to a rapidly-increasing business. The account has been credited with sales of dormant properties and machinery amounting to \$118,405.78. The net result is an increase to permanent investment account of \$83,067.95. The export business of the company during the past year has amounted to more than \$9,000,000, being an important item in the distribution of the surplus production of this country. At no period in the history of the company has the physical condition of its properties been up to the present standard of value and efficiency or so thoroughly equipped to do a large business. Since the last valuation of real estate, buildings and machinery, taken in 1892, \$1,868,017.40 has been put into productive permanent investment and added to the assets; \$2,581,819.85 has been spent in repairs, additions and betterments and charged to operating expenses. It will be gratifying to the stockholders to learn that the foreign and domestic business in cottonseed and soaps is continually growing in importance. Although the volume of business in these goods—sold under special brands and trade-marks—is already very large, yet with close attention from the management the possibility of further development is practically unlimited.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., November 16.

Trade in all lines of the local lumber industry continues to move along very satisfactory, the volume of business, however, being still light on certain woods on account of scarcity of desirable stock. The demand continues to show very decided features, and buyers pay prices without hesitation to fill urgent necessities. The movement in North Carolina pine is still of an active character, with prices for the general list very firm. Indeed, holders are getting from 50 cents to \$1 per thousand in certain cases above the price-list, and there is further discussion among members of the association with regard to another advance all along the line of grades and dimensions. In a local way box grades have been a shade easier, but prices have recovered and are now steady. Air-dried lumber has been in fair request during the past week, and boxmakers and yardmen have been buying freely. The hardwood business is fairly active, but with light stocks of dry lumber the volume of business is somewhat restricted. Poplar, oak and ash are moving freely, with values firm. There is a fair business reported by timber exporters, but the total volume of business will not be as large as October. Reports from European markets show no excessive stocks, and prices for all hardwoods are quoted firm. Buyers, however, are holding off on account of the advance in timber and lumber caused by a corresponding advance in ocean freights.

Charleston.

[From our own Correspondent.]
Charleston, S. C., November 13.

The demand for all grades and dimensions of lumber continues fairly active in the general market. At this and adjacent milling points mills are all well supplied with orders, and have business enough to keep them running for three months to come. Prices are generally very steady, and are well sustained on all grades. At Georgetown the mills are all running on full time, and there is considerable activity in building and manufacturing of lumber. Shipments from Georgetown are increasing very materially, and the harbor improvements now in progress will, when completed, add largely to the commerce of the port. The foreign export trade in lumber is improving, and during the past week there has been several inquiries for lumber from European firms. There are a number of vessels now about loading at Charleston, and several due to arrive during the present week. The shipments last week were as follows: Schooner Horace G. Morse for Fall River with 315,000 feet of lumber; schooner Robert A. Snyder for New Haven with 275,000 feet; steamship Seminole for Boston with 185,784 feet, and for New York barkentine E. S. Powell with 468,000 feet. Lumber freights are steady, with a moderate offering of ocean tonnage. The increased shipments of lumber from this port are given in the following comparative statement: Domestic shipments from September 1 to New York 7,440,569 feet, Boston 1,852,161 feet, Baltimore 425,000, and other United States ports 350,000, making a total of 10,067,730 feet, against 4,271,082 feet to all ports for the same period last year. Foreign shipments of lumber since September 1 aggregate 1,150,000 feet.

Savannah.

[From our own Correspondent.]
Savannah, Ga., November 13.

There continues to be a more than usual volume of trade in the local lumber market, as well as great activity at all milling sections in Southern Georgia. The demand from Northern ports for lumber still continues very decided, with shipments increasing as the season progresses. At nearby ports in Georgia the general trade continues of good volume, and at Brunswick and Darien both timber and lumber shipments are very satisfactory. There is a much better foreign business reported, and the demand from Spain and other European markets continues to improve. Prices throughout the general list of values are firm and advancing, and for all desirable grades buyers are anxious to purchase. Reports from the interior towns in this State are generally encouraging, and the prospects for business in all departments of the lumber industry are brighter than they have been for years. Foreign capital is seeking investment in desirable timber lands, and during the past week several large deals have been closed for long-leaf pine lands. The shipments of lumber during the past week aggregated over 4,000,000 feet for Northern ports and Great Britain and the Continent. Lumber and timber freights continue steady, with a moderate offering of desirable tonnage.

Mobile.

[From our own Correspondent.]
Mobile, Ala., November 13.

The week under review has shown an unusual volume of trade in every department of the business of this port. The lumber and timber industry during the past week has shown greater activity than for some time past. The demand for all grades of lumber is quite brisk, the Cuban trade being larger this month than last. South America is also a good buyer, while there is a fair trade with Central American and European ports. The shipments of lumber last week amounted to 3,399,179 feet, and since September 1 25,016,956 feet have been shipped, against 5,349,325 feet last year. The timber market is active, with a good demand, and prices steady at 14 to 14½ cents per cubic foot for sawn timber and 14 to 15 cents for hewn timber. Hewn poplar is steady at 12 cents per cubic foot. Stocks of hewn timber continue light, and of sawn timber there is also a moderate supply. Advices from Great Britain and the Continent continue favorable, with prices firm and hardening. The London Timber Trades Journal, in its issue of November 4, says: "Pitch-pine planks and boards have been improving steadily in European markets for some time, and the price for timber in the log has been well maintained all through the season. It is hardly worth quoting prices, as there is little or nothing afloat, but recent current values were 62/6 for thirty feet, and for thirty-five feet average 65/ c. i. f." The shipments of sawn timber during the past week aggregated 481,086 cubic feet for Great Britain and continental ports. The total shipments of sawn timber since September 1 amount to 1,486,207 cubic feet, against 1,319,912 cubic feet last year. The freight market continues to rule firm, with a light offering of desirable vessels.

Beaumont.

[From our own Correspondent.]
Beaumont, Texas, November 13.

Throughout this section of the State everything connected with the lumber trade is in a healthy condition, and the volume of business in a local way shows a material increase over that of last month. All the mills at this point have as many orders as they can take care of, and are now running until 9.30 at night. There is

a good demand for bill stuff, and the yard trade is unusually good. A good inquiry has prevailed during the week from Eastern railroads, and several good orders have been filed. The contemplated advance in freight rates announced to become operative on December 1 has been freely discussed among lumbermen here during the week. There is still considerable complaint about the scarcity of cars, and a considerable number of shipments are kept back for want of proper rail facilities. While the domestic trade in all wood products is brisk, the foreign export business has been somewhat neglected. There is, however, considerable inquiry from the European markets, and a large amount of actual business will be developed next month. The mills here and on the line of the Kansas City, Watkins & Gulf Railway are all more or less engaged in cutting timber for export. The demand from foreign markets is good, and timber exporters look for a large trade in their line through Sabine Pass in 1900. Captain King, engaged in the harbor improvements at Sabine Pass, is quoted as saying that the jetty work at the Pass will be completed within four months, which will add greatly to the facilities for shipping. The International Creosoting & Construction Co. of this city is in receipt of orders from various sections of this country and Europe, and the business of the company since its organization a few months ago has been of great volume. The company is turning out 43,000 or 44,000 feet of lumber per day when they have material at hand.

Lumber Notes.

Receipts of lumber last week at the port of New Orleans aggregated 2,001,000 feet, and for the season 26,833,009 feet, against 23,443,700 feet last season.

The Richmond Woodworking Co. of Richmond, Va., has just received an order from Germany involving \$80,000. The contract is already signed and closed.

The Ives Lumber Co. of Ives, Texas, has been chartered, with a capital of \$5000. The incorporators are J. J. Campbell, J. Lee Campbell and Y. M. McNell.

It is stated that the Loomis & Hart Manufacturing Co. of Chattanooga, Tenn., will increase the capacity of its saw-mill plant by the erection of a number of brick additions.

Messrs. E. F. Nottingham and C. W. Holland of Eastville, Va., have purchased the extensive saw-mill plant and planing mill at Corapeake, N. C., and will commence operations on their new purchase at once.

The McMullin-Miller Lumber Co. of Faison, Duplin county, North Carolina, was chartered last week, with a capital stock of \$50,000. The incorporators are Albert E. McMullin, Wilbert H. McMullin and George Miller.

The Empire Lumber & Mining Co., of which A. J. Dull of Harrisburg, Pa., is president, has nearly completed a saw-mill plant in Shady Valley, Johnson county, Tennessee, which will have a capacity of 100,000 feet a day.

The Dodds Lumber Co., located in Johnson county, Tennessee, is now manufacturing oak lumber for export, with an output of 15,000 feet per day. The company's mill is on the line of the Virginia & Southwestern Railway.

The first of a series of carload shipments of telegraph crossarms was made from Norfolk last week. They are going to Manila, and are being shipped by the Norfolk Creosoting Co., of which Mr. E. A. Buell of Norfolk is president.

The track of the Pineapolis Lumber Co. was completed last week into Tifton, Ga.,

and connection made with the Brunswick & Western Railroad tracks. Trains will now run regularly between the company's large saw-mills via Moultrie to Tifton.

The Long Pole Lumber Co. of Welch, W. Va., has been chartered, with a subscribed capital of \$11,700 and an authorized capital of \$40,000. The incorporators are W. J. Newenhall, William Lang, M. P. Deagan, John F. Haller and E. J. Ware, all of Pocahontas, Va.

The West Huntsville Furniture & Lumber Co. of Huntsville, Ala., has more orders than it can fill in the next several months. About 125 men are given employment in the factory, with a prospect for a considerable increase in the near future.

The Midland Brick & Terra Cotta Lumber Co. of Wheeling, W. Va., was chartered last week, with a subscribed capital of \$100,000. The incorporators are Charles W. Franzheim, J. M. Vance, Wynn Hubbard, John M. Birch and M. L. Ott, all of Wheeling, and James Ponce of Wellsburg.

The Gibson Manufacturing Co. of Elgin, Ark., has been incorporated, with a capital of \$10,000. The incorporators and officers are J. M. Gibson, president; W. R. Baldwin, vice-president, and C. W. Rhodes, secretary-treasurer. The company purposes to saw lumber and buy and sell lumber and timber lands.

Walter Alexander and Alexander Stewart of Wausa, Wis., have purchased the Brown milling property at Gifford, Ark., with 20,000 acres of timber land. The consideration is \$90,000, of which \$45,000 was cash. It is said that the Malvern Lumber Co. has a contract with the purchasers to operate the plant.

Frederick Weyerhaeuser of Chippewa Falls has just closed a deal for 1,000,000 acres of timber land from the Northern Pacific Company. This timber is located on the Pacific coast, and the price paid is \$6,000,000. This is the greatest timber deal ever closed by a single individual in the history of the lumbering and logging industry.

The Ritter Lumber Co., a West Virginia corporation, is about to begin the manufacture of pine lumber on the Linville river, in Western North Carolina, at the rate of 100,000 feet a day. This lumber will be shipped to market via the Linville River Railway, which connects with the East Tennessee & Western North Carolina Railway at Cranberry.

It is stated that J. H. Unsold of Clarksville, Tenn.; A. R. Culp of Boston, Mass., and A. C. Phillips of Georgia have sold to Austrian capitalists 110,000 acres of long-leaf pine lands for \$550,000. The purchasers will erect immense saw-mills on the lands. The lands are located in Alabama and Georgia, and it is said to be the finest body of timber in the South.

The shipments of lumber from the port of Mobile, Ala., for the week ending November 9 aggregated 3,399,179 feet, and for the season 25,016,956 feet, against 5,349,325 last year. The shipments of sawn timber for the week amounted to 481,086 cubic feet. The total shipments of all wood products for the week amounted to over 11,000,000 superficial feet.

The Millington Pump Works of Millington, near Memphis, Tenn., has been chartered, with a capital of \$30,000. The plant is comparatively new, and cost between \$40,000 and \$50,000, embracing a main factory building, saw-mills, drying establishment, screen-door and window department, etc. The officers of the new company are Col. C. W. Metcalf, president, and J. Hank, manager and superintendent.

PHOSPHATES.

BUYING PHOSPHATE LANDS.

Columbia Shares the Business Activity of the Mt. Pleasant Region.

[Special Cor. Manufacturers' Record.]
Columbia, Tenn., November 13.

The sales of several large tracts of phosphate land in the vicinity of Columbia lately has given fresh impetus to extraordinary business activity already prevalent here. Sales in this county within the last two weeks have amounted to \$125,000. Two of the purchases have been in the neighborhood of Carter's Creek, and others near Mt. Pleasant. Mt. Pleasant is eleven miles to the southwest of Columbia, and Carter's Creek eight miles north. Swift & Co., the great packers, and the Virginia-Carolina Fertilizer Co., the greatest manufacturers of fertilizer in the South, are the purchasers in the Carter's Creek neighborhood. They are obtaining the supply of phosphate for their own use upon the property that they have bought. This means another large mining camp in the neighborhood of Columbia, and helps to stimulate the trade of this town.

There is renewed talk of the Mt. Pleasant, Tennessee & Milan Railroad, and of the road to be built by Jere Baxter from Nashville to Florence by way of Columbia. It seems that one or the other of the projected lines will be built into this county. One-fourth of the phosphate shipped from this county going to the new railroad will make it a handsome investment, even if the road should get no further patronage.

The City Feed & Grain Co. has just completed a splendidly-equipped feed mill, with a capacity of 7000 bushels of corn per day. It has the latest improved machinery, and everything is handled automatically from the time that it leaves the car, in crude form, until the manufactured product is ready for delivering. All parts of the corn-cob and husk, as well as the grain, are utilized.

The Columbia Chamber of Commerce at the last meeting took steps to secure a charter for the electric railroad from Columbia to Mt. Pleasant, and also took steps to induce the Louisville & Nashville Railroad to build a new depot at this place.

A move is being made also for the Live-Stock and Phosphate Exposition to be held at this place next spring.

Building is going on here as rapidly as it is possible to get building material, but still there is a demand for a great many more houses than can be had.

A. C. FLOYD.

Florida Phosphate Notes.

[Special Cor. Manufacturers' Record.]
Ocala, Fla., November 13.

W. M. Brooks of Floral City, who owns 3000 acres of lands near that town, says that he has found a great deal of valuable phosphate deposits on the land. Mr. Brooks does not think he will mine the rock himself, but will probably lease or sell the land.

H. Y. Hossard of Juliette is constructing two elegant modern double-log washer plants at Juliette, where he has very extensive deposits of phosphate. The plants will be completed about December 1; will have a capacity of 100 tons each per day.

J. Buttgenbach & Co., foreign operators, are erecting two new-plants near Newberry in what is known as the High Springs field. The plants are strictly first-class, double-log, 30-foot washers, and will be completed and mining rock about December 15; capacity about 100 tons per day each, and the plants are being erected on deposits that will last for several years.

In Polk county Louis McLain is putting up a splendid plant at Phosphoria on one of the best pebble deposits in that section. R. A. Alfred has charge of the plant, and will have same completed in about thirty days.

J. H. Livingston of Ocala sold last week 38,000 acres of heavily timbered pine land in South Florida to D. H. & C. B. Dunn of this (Marion) and Citrus county, to be used for turpentine and lumber purposes.

A representative of the Richmond Spoke & Rim Co., Richmond, Va., is at Gainesville looking over the hardwood supply in the forests, with a view of putting in a factory.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, Md., November 16.

In the local phosphate market there has been some improvement during the past week, but the volume of transactions are still limited in character. Several lots of Tennessee rock have been sold, and there is also a demand for Florida and South Carolina rock. The following charters were reported during the past week: British steamer James Turpie, 1092 tons, from Fernandina to the United Kingdom or Continent with phosphate rock on private terms; Norwegian steamer Kingswood, 1200 tons, from Tampa to St. Nazaire with phosphate rock at 21/, and British steamer Laura, 1809 tons, from Tampa to Stettin with phosphate rock at 20/. The reports from phosphate mining sections are all favorable, showing extensive development, with prices firm and hardening. The shipments from South Carolina mining sections are larger than usual, and there is a good domestic and foreign demand. River miners of South Carolina rock are very firm in their views as to prices. In Florida shipments from the ports will be a good average for the present month, and miners are generally well sold up to as far as March and April of 1900. Prices continue firm, with a prospect of an advance in the near future. The Tennessee phosphate field is at present the scene of the greatest activity, and the various companies engaged are working their deposits for all they are worth. Prices at Mt. Pleasant continue steady at \$2.50 to \$3 for domestic and \$4 to \$4.50 per ton for foreign.

Fertilizer Ingredients.

The market for ammoniates continues to improve, and values are stronger, with the volume of business, however, only moderate. There has been a good demand for dried blood and tankage at a slight advance in values. Sulphate of ammonia is in fair demand for spot and near deliveries. The offerings of nitrate of soda are light, and prices firm for spot lots.

The following table represents the prices current at this date:

Sulphate of ammonia (gas).....	\$2 75 @ 2 80
Nitrate of soda.....	1 70 @ 1 72 1/2
Blood.....	1 32 1/2 @ 1 35
Hoof meal.....	1 67 1/2 @ 1 70
Azotine (beef).....	1 30 @ 1 35
Azotine (pork).....	1 50 @ 1 55
Tankage (concentrated).....	1 67 1/2 @ 1 70
Tankage (9 and 20).....	1 80 @ 1 85 & 10
Tankage (7 and 20).....	17 00 @ 17 50
Fish (dry).....	20 00 @
Fish (acid).....	12 00 @

Phosphate and Fertilizer Notes.

It is stated that the Coosaw Company, mining phosphate near Beaufort, S. C., has purchased the Pacific Phosphate Co.'s territory, and the latter has withdrawn its dredges.

The phosphate mines on the land owned by Mrs. Laura Brown have been opened. These mines are one-half mile from Spring Hill, Tenn., and give employment to about fifty hands.

The steamship Hero arrived at New Orleans last week from Tampa, Fla.,

with 2500 tons of phosphate rock in transit for Kobe, Japan. The Hero will finish her cargo with cotton at New Orleans.

The Virginia-Carolina Chemical Co. of Richmond, Va., has taken possession of the plant and stock of the Edisto Phosphate Co. of Charleston, S. C., which it purchased recently and is now operating the plant.

Messrs. J. M. Lang & Co. report the following shipments of high-grade Florida rock from the port of Savannah, Ga., for the week ending the 9th inst.: Steamship Maritime for Liverpool with 1564 tons, and steamship Suez with 1001 tons for Bremen and steamship Levant for the same port with 1151 tons.

Messrs. J. M. Lang & Co. report the shipment of high-grade Florida phosphate rock from the port of Savannah for the month of October as follows: Bremen, 3865 tons; Liverpool, 1654 tons; Genoa, 2012 tons; Gaidwieken, 1618 tons; Gothenburg, 1545 tons, and Rotterdam, 2030 tons, or a total of 12,724 tons.

The schooner George R. Congdon cleared from Charleston, S. C., last week with 600 tons of phosphate rock, and the schooner James Boyce, Jr., for Baltimore with 977 tons. The total shipments of phosphate rock from the port of Charleston to domestic ports since September 1 amounted on the 9th inst. to 19,237 tons, against 22,610 tons for the corresponding period last year.

The O'Neill Manufacturing Co. of Rome, Ga., dealer in yellow-pine lumber and manufacturer of sash, doors and blinds and general contractor, in a letter to the Manufacturers' Record state that it is very much crowded with work, and has just closed a contract with the Coosa Manufacturing Co. of Piedmont, Ala., for forty operatives' cottages, and has just completed forty-two houses for the Aragon Mills, near Rome, and has sold the Merri-mack Manufacturing Co. at Huntsville, Ala., all of the material needed for the building of forty cottages. The company is building for the Aragon Mills a hotel, postoffice and superintendent's residence at a cost of about \$10,000 in all, and in addition to this work is taking care of its general trade, which extends over Virginia, West Virginia, Kentucky, Indiana, Ohio and Pennsylvania. Its factories are running day and night with increased force, and it is now working about 130 men in its factory and 150 to 170 men on outside work, making a total of about 300 in its employ. This company has been very successful in extending its trade far into the West and North, showing how Southern manufacturing concerns can push into outside business.

The Elsie Lumber Co. of Elsie, Moore county, North Carolina, was incorporated last week, with a capital stock of \$10,000. The incorporators are E. H. Middleton and J. B. Linney of Philadelphia and J. G. Foushee of Greensboro, all stockholders of the Durham & Charlotte Railroad. The company is authorized to build tram-roads to connect its mills at Elsie with the Durham & Charlotte Railroad in the counties of Moore, Durham, Chatham, Montgomery, Stanley, Cabarrus and Mecklenburg.

Cottonseed products in Texas last week made a further slight decline. Prime crude oil, loose, is quoted 19 1/2 to 20 cents, and prime summer-yellow oil, 22 1/2 to 23 cents; lint, per pound, 3 to 3 1/4 cents, all f. o. b. mill at interior points in the State. Prime cottonseed cake and meal is quoted at \$19 per ton delivered at Galveston. Houston mills are paying \$9.50 per ton for cottonseed f. o. b. interior towns.

MECHANICAL.

Leather Link-Belting.

The experience of owners and operators of mills and factories of all kinds is constantly bringing to the front some one point of manufacturing wherein improvement is needed. This demand is now, and has always been, promptly met by American manufacturers of mechanical goods. A few years ago users of belting for the

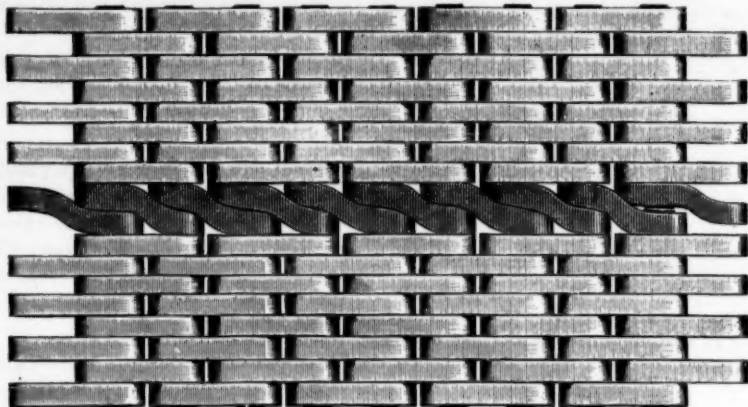


FIG. 1

transmission of power had first introduced to their notice what is known as leather link-belting, the claims for exceptional merit in which have been plentifully verified in practice.

Link-belts are now a staple article. Their great flexibility is one of the strongest points in their favor, because they can adjust themselves to almost any angle, long or short, and are superior for odd positions and places where shafts are out



FIG. 2

of line of each other and the belt needs to be twisted, etc.

An illustration is given that shows in what a graceful, easy curve the belt throws itself when run half-crossed or at right angles. The entire surface of the belt hugs the face of the pulley and, therefore, is able to transmit its full capacity of power, which no other flat belt can do, or stand the work in such a position.

Link-belting of leather is unrivaled for



FIG. 3

pliability and grip power, and is so constructed as to prevent the forming of air cushions, and will run much more slack without slipping.

At first it was thought that link-belts could be used more successfully on slow-running machinery, but by actual tests this was found to be an error, because some of the best results for link-belts were attained when used on machinery run at high velocity.

The valuable invention of the American

patent joint binds the alternate opposite sides by means of a link and holds both sides firmly together, and at the same time gives the belt pliability transversely, so that it can adjust itself to the crowning periphery or the rounded face of the pulley.

This joint has a decided advantage over other devices to make the belt pliable transversely. It gives the belt an unbroken surface of its entire width, and the belt can be run on either side.

Special attention is given to selecting the leather, and only the most solid parts of pure oak-tanned belting leather is used, and an extra coat of dressing or stuffing is applied to toughen and strengthen the fiber, so that it can withstand a greater strain.

The joining of the leather links is particularly important. The links are particularly assorted as to thickness; the outer links are countersunk to admit the bolt heads, and made to come flush with the belt; then the links are put together and two steel bolts used for the width of belts, which are ingeniously jointed together in the center.

Formerly only one steel bolt was used for the entire width, which made the link-belt stiff and clumsy and not suitable to use on a crowned-face pulley. The bolts would either bend or break, and, therefore, proved unsatisfactory. But the use of two bolts has remedied that defect. A powerful stretching machine, specially designed, removes most of the stretch in these belts before they leave the factory.

The manufacturers of this leather link-belting are Messrs. Charles A. Schieren & Co. of New York city; office at 45 Ferry street. The firm has tanneries in the South and at Brooklyn, N. Y.

Automatic Screw Machine.

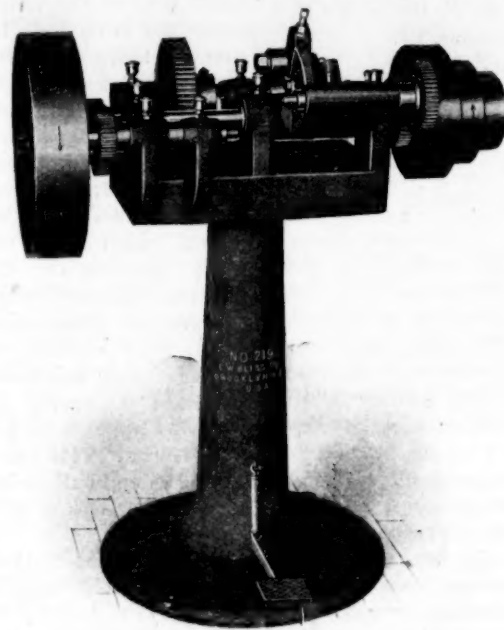
On this page is illustrated an entirely new machine, which has recently been introduced by the E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y. This machine is for making sheet-metal screws on caps, covers, etc. From 15,000 to 18,000 pieces can be threaded per day of ten hours, and in many cases the cap and the screw on which it fits may be threaded at the same time, thus doubling the output. The chucks are of the simplest and most durable character, easily adjusted and replaced to suit the work. While the Bliss Company has for a number of years made automatic screw machines for sheet-metal screws, the machine illustrated embodies all the latest and best ideas known in machine construction.

The working of the machine is exceedingly simple. The threading device consists of two steel chucks, onto which is cut the shape of the thread desired. The cap which is to be threaded is placed upon the lower chuck. After this has been done the operator depresses the foot-treadle, starting the machine, which is timed to run just long enough to thread the cap. These chucks revolve in such relation to each other that the slightest

resistance on the cap will cause it to quickly unscrew itself and free the chuck ready for another shell or cap.

This same style of machine can also be used for beading and knurling. In some instances the shells are of such a shape that threading and beading are done at the same time. Various modifications are made in this machine to suit special re-

quirements. Its weight, together with guards (not shown) for the gearing, is 575 pounds. Dimensions and sizes of work which can be done on this machine may be had on application. As is well known, this concern makes a specialty of presses, dies, drop hammers, shears and other sheet-metal-working tools, and solicits correspondence with anyone interested in that line of tools.



AUTOMATIC SCREW MACHINE.

quirements. Its weight, together with guards (not shown) for the gearing, is 575 pounds. Dimensions and sizes of work which can be done on this machine may be had on application. As is well known, this concern makes a specialty of presses, dies, drop hammers, shears and other sheet-metal-working tools, and solicits correspondence with anyone interested in that line of tools.

Shear-Cutting and Self-Cleaning Grate.

Of special interest to steam users will be found the accompanying illustrations and description of an improved grate. It is not new, but has been on the market

when rotated by the shaking lever a pocket is formed, then a shear-cut is made against the stationary bars A. By this motion the clinkers and ashes are first rolled toward the stationary bars A, then cut into small pieces and deposited in the ashpit, thus cleaning the bottom of the fire perfectly, and without letting any unburnt coal through. This grate is air-

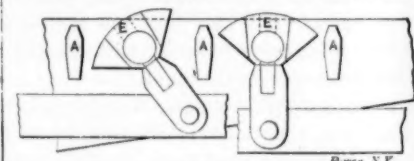


FIG. 1

and this brings the best results from the fuel consumed.

The opening of fire doors and use of slice bars are never required, as this grate

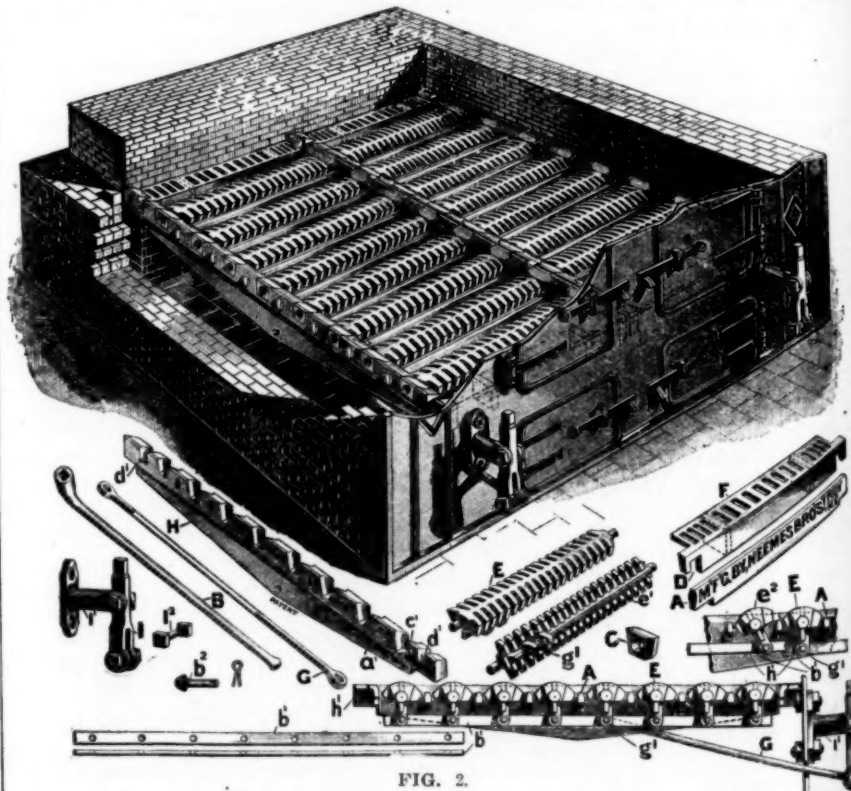


FIG. 2

nearly two years, during which time it has been tried and proved of exceptional merit for the purpose to which it is applied. A coal-saver means lessening of coal bills, and thereby decreases the cost of steam-plant operation. This grate is for hard or soft coal.

The stationary bars A are placed between the shaking bars E, the teeth of which are undercut or beveled off, so that

will thoroughly clean the fire and at the same time save fuel by the non-admission of cold air over the fire and the forcing of coal through the grate and door by use of slice bars.

There is an abundance of air space, and the combustion is perfect, proved by the ashes showing no coal.

The grate cannot buckle, warp or get out of shape, as provision is made for the

expansion of the stationary and shaking bars in the side-bars and boxes.

Manufactured by Neemes Bros., 206 First street, Troy, N. Y.

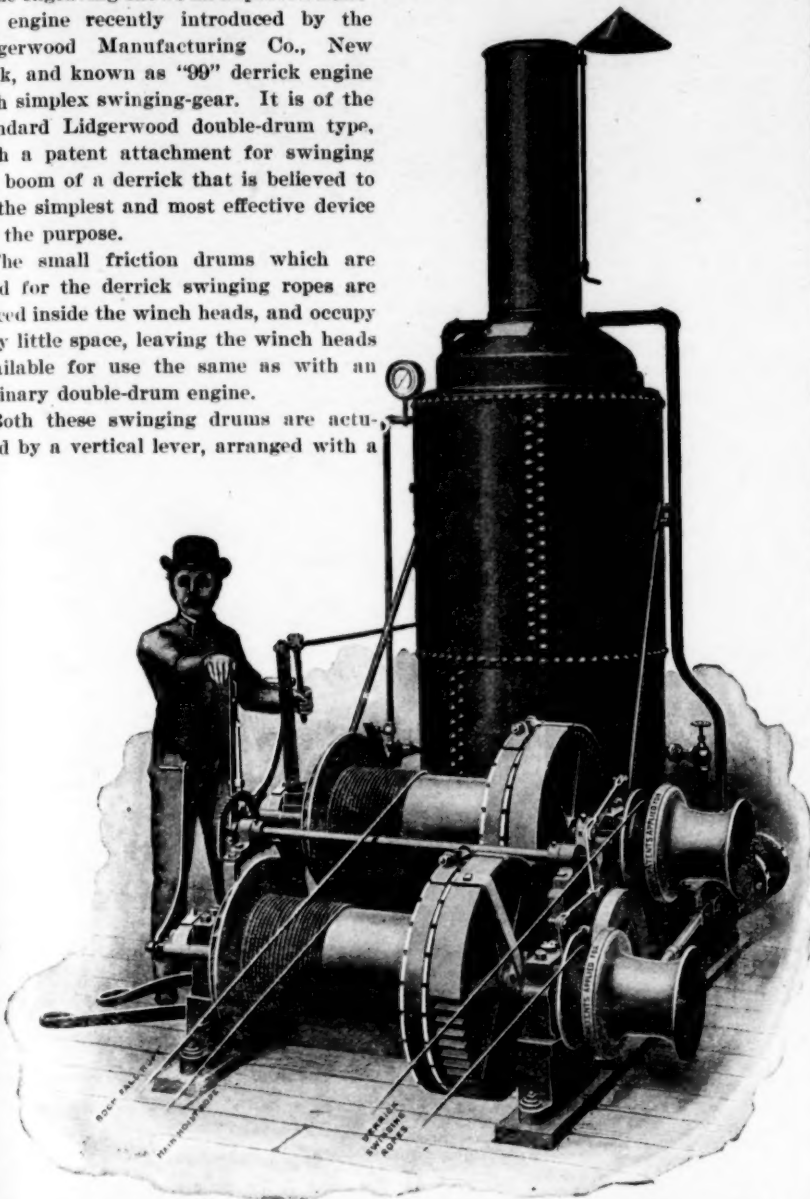
Derrick Engine with Simplex Swinging-Gear.

The engraving shows an improved hoisting engine recently introduced by the Lidgerwood Manufacturing Co., New York, and known as "99" derrick engine with simplex swinging-gear. It is of the standard Lidgerwood double-drum type, with a patent attachment for swinging the boom of a derrick that is believed to be the simplest and most effective device for the purpose.

The small friction drums which are used for the derrick swinging ropes are placed inside the winch heads, and occupy very little space, leaving the winch heads available for use the same as with an ordinary double-drum engine.

Both these swinging drums are actuated by a vertical lever, arranged with a

forward it engages the friction clutch on that winch, causing it to rotate and winding in the rope, which turns the boom in one direction, the other winch meanwhile paying out the rope, as the cams are so constructed that the same movement which engages one friction disengages the other.



LIDGERWOOD "99" DERRICK ENGINE WITH SIMPLEX SWINGING-GEAR.

detent and quadrant, so that the lever may be applied and held by the detent in its position without further attention on the part of the operator. The device is thus easily handled by the operator, and the operations of hoisting the load, raising the boom and swinging the boom can all go on simultaneously with practically no more trouble than in handling an ordinary double-drum engine.

The winch heads are secured to the shaft by a sliding key or feather, and are of special form, having a sleeve, upon which the swinging drum revolves, and a very powerful form of friction is used between the swinging drum and the winch head, so that the full power of the engine can be used.

The frictional contact is produced by cams placed between the swinging drums and the frame of the engine, while collars with anti-friction washers are placed on opposite sides of the frame to take up the thrust.

The operating cams are connected by links to the end of a lever, which is carried on a rock shaft extending across to the side where the operator stands, and where the vertical detent lever for operating the swinging device is placed. In the operation a rope is wound on the bull wheel of the derrick, and is secured to the same in the center. Each of the two ends is secured to one of the two swinging drums, enough rope being wound on each to give the required amount of motion to the bull wheel. By throwing the lever

By throwing the lever backward the friction of the rear friction drum is engaged, and the forward friction drum is released. Thus the boom can be pulled in either direction.

The cams operating the frictions are so constructed that when the operating lever is in its central position there is enough frictional contact in the swinging drums to keep the ropes taut, and therefore, when one swinging drum is winding in the rope the other drum has sufficient friction to prevent the rope which is paying out from overrunning. The means of adjustment is very simple, consisting of a nut on a stud bolt in the outer end of each winch shaft.

The construction of the friction is such that there is very little wear, and when the parts are worn they may be replaced at a trifling cost without impairing the main parts of the device whatever.

The advantages of this swinging-gear are apparent; it occupies a small amount of space, does not add much to the weight of the engine, can be operated with very little exertion and requires very little time in its operation on account of the detent lever, which holds itself in whatever position placed.

One of the most important features lies in the fact that it can be placed upon any of the Lidgerwood standard double-drum hoisting engines, either with or without boiler.

This is one of the most valuable improvements that has been placed upon a

hoisting engine, as it not only largely increases the capacity of a derrick, but saves the expense of swinging the boom by hand.

Browne's Vacuum Bailing Tank.

We illustrate an economical and effectual means of raising limited quantities of water from a mine shaft while the work of sinking the shaft is in progress.

This vacuum bailing tank was patented by Mr. Ross E. Browne and assigned to Fraser & Chalmers.

By its employment the difficulties and inconveniences usually experienced in removing limited quantities of water from the uncompleted shaft are obviated.

The apparatus consists of a large vacuum tank, which may be lowered and hoisted rapidly in the shaft by means of an ordinary hoisting or winding engine located on the surface.

The tank is lowered to a point near the bottom of the shaft and connected by means of a coupling with the vacuum pipe leading to the vacuum pump on the surface, which may be driven continuously or intermittently by steam, compressed air, electric current, water-power or otherwise, as may be most convenient.

The operation of this pump produces the vacuum in the tank, which draws the water from the shaft bottom through a

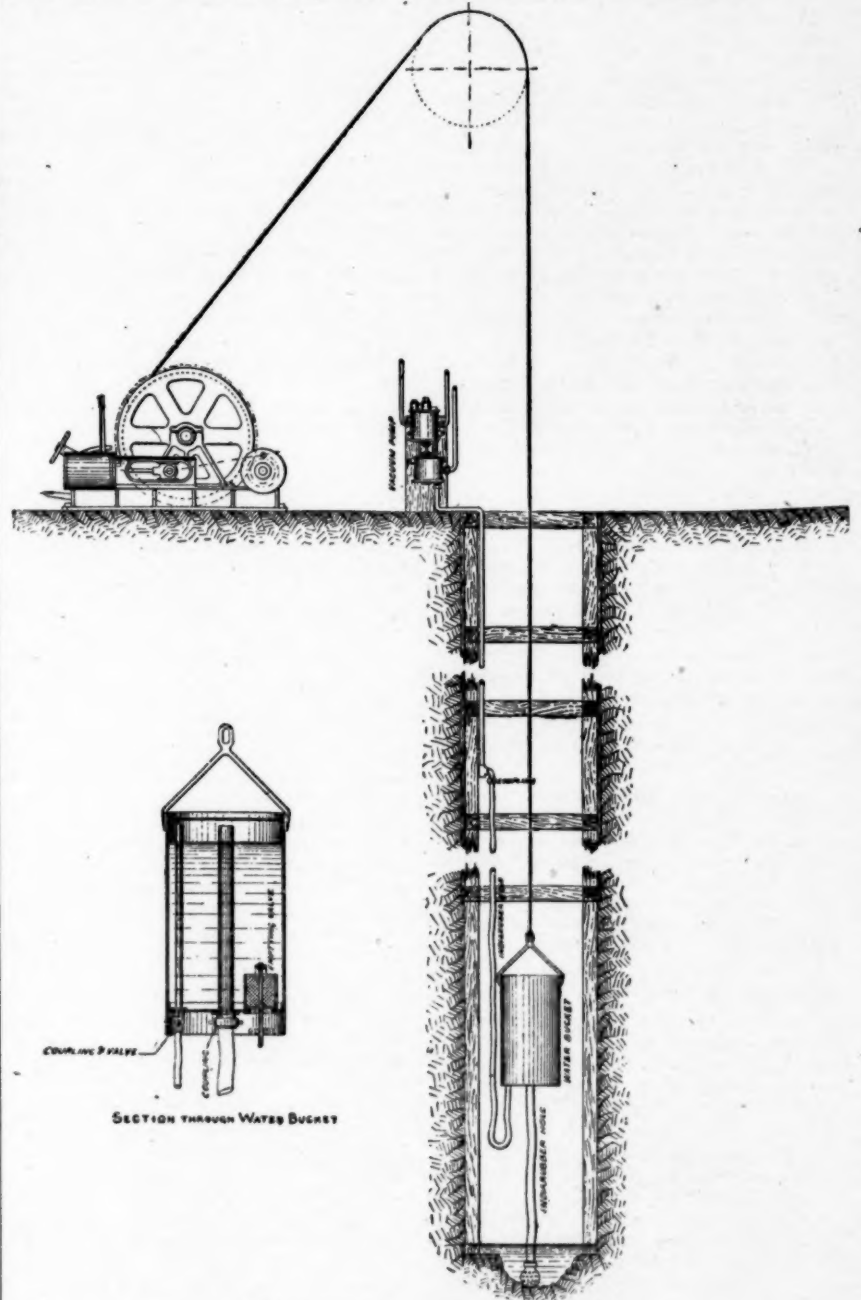
The coupling is preferably connected with the vacuum pipe and with the tank by means of flexible vacuum hose, so as to occupy a position readily accessible to the miner, and is most suitably constructed to cut off the air intake when uncoupled and open the same when coupled. Similar couplings are in common use for other purposes at the present time.

The tank is best provided with shoes to run in guides in the shaft; its construction also involves the use of a self-dumping valve, operated by a rod passing through a stuffing-box at the top of the tank and connected with a lever which is automatically tipped by a stationary guide at the surface, the discharging water being carried through a water trough. Similar arrangements for automatically emptying the tank are commonly used in bailing.

Additional hoisting capacity is not required where double hoists are already provided, as is very frequently the case—one for each of two compartments.

The utilization of one hoisting compartment for bailing while sinking as a rule is not objectionable; shafts generally have two or more compartments, only one of which is used for hoisting the rock from the bottom of the shaft.

The tank is described as specially designed for use in vertical shafts, but it may be adapted to inclines.



BROWNE'S VACUUM BAILING TANK.

strainer-foot valve, suction hose and suction valve.

When the tank is filled with water the coupling is loosened and the tank is then hoisted to the surface to be emptied and returned to the bottom of the shaft, where it is reconnected with the vacuum pipe and is then ready for refilling.

It lifts air, water, mud, sand, etc., with less than the usual amount of wear and tear, necessitates less labor in handling, and is easily kept in order.

Further information concerning the device may be obtained by addressing the manufacturers, Fraser & Chalmers, Chicago and London.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

Several capitalists of Gas City, Ind., are desirous of securing a location in the South for a water-works system or electric-light plant, or for a combined system. J. M. Beavo can be addressed.

ALABAMA.

Anniston—Bag Factory.—J. H. Pratt and A. E. Yates of Atlanta, Ga., reported last week as having leased the Anniston Bag & Mill Co.'s plant at Anniston, have formed the Pratt & Yates Bag Co. to operate it; present capacity is 60,000 bags per day, which will be increased. Address all communications to Anniston.

Anniston—Coal Mines.—Coal has been discovered on the property of R. B. Perkins at Corning, and will be developed.

Anniston—Iron Mines.—The Anniston Brown Ore Co. has been organized with capital stock of \$50,000, purchased 2000 acres of ore lands, leased other tracts, and will develop extensively to a daily output of 600 tons; a 300-ton ore washer will be built at once; E. R. Grasselli of Cleveland, Ohio, president, and John B. Lagarde of Anniston, treasurer and general manager. Offices in Security Bank Building, Anniston.

Demopolis—Ice and Cold-storage Plant.—A stock company has been organized to erect a 15-ton ice and cold-storage plant. Names of interested parties will be announced later.

Gadsden—Iron Furnace.—It is claimed that Eastern capitalists have optioned the abandoned Coosa charcoal furnace at Gadsden and will convert it into a coke furnace with 100 tons daily capacity. Same parties are also reported as having secured options on the old Stonewall furnace, the Citico furnace at Chattanooga, Tenn., the Round Mountain furnace and 80,000 acres of ore lands.

Huntsville—Brewery.—H. A. Raeppe and H. H. Heylser of Freeport, Ill., will, it is reported, establish a \$100,000 brewery at Huntsville.

Huntsville—Cotton Mill.—The West Huntsville Cotton Mill contemplates enlarging.

Mobile—Saw-mill.—Doherty Bros. of Wash, Ind., are erecting a saw-mill with capacity for cutting 30,000 feet of hardwoods per day at Mobile.

Montgomery—Grocery Company.—Chartered: The Brock Grocery Co. by W. B. Howard and others, with capital of \$2000.

Opelika—Lumber Mills.—J. H. Unsold of Clarksville, Tenn.; A. R. Culp of Boston and A. C. Phillips of Georgia have sold to Austrian capitalists 110,000 acres of pine lands in Alabama and Georgia, the purchasers intending to erect large lumber mills to develop property.

Pratt City—Shoe Factory.—D. M. Wilson, president of the Wilson Shoe Manufacturing Co. of Waycross, Ga., is investigating with a view of establishing a shoe factory in Pratt City.

ARKANSAS.

Elgin—Lumber Mill.—The Gibson Manufacturing Co. has been incorporated for the manufacture of lumber, with capital stock of \$10,000, by J. M. Gibson, president; R. Baldwin, vice-president, and C. W. Rhoades, secretary-treasurer.

Fort Smith—Cotton-oil Mill.—The Fort Smith Cottonseed Oil Co., reported last April as incorporated for the erection of a cottonseed-oil mill, has completed its plant, which has a daily capacity of 100 tons; five tanks have been installed, with capacity of 2500 gallons each; company has also installed its own electric-light plant; G. M. Henson, president.

Little Rock—Construction Company.—Chartered: The Dalhoff Construction Co., with capital stock of \$25,000, by H. Dalhoff, president, and others.

Montevallo—Iron Mines.—The Robinson Mining Co. has commenced the development of iron-ore lands near Montevallo; two washers will be erected.

Pine Bluff—Steamboat Company.—The Pine Bluff Packet Co. has been incorporated, with authorized capital of \$10,000. Address for particulars Pine Bluff Commercial League.

Pine Bluff—Ice and Cold-storage Plant.—The William J. Lemp Brewing Co. of St. Louis, Mo., will establish a \$50,000 ice factory and cold-storage plant at Pine Bluff.

Pine Bluff—Hardwood Factory.—W. H. Roane & Co. and B. M. Leake have purchased the D. M. Riggin mill and will install machinery for the manufacture of hardwoods, operating as B. M. Leake & Co.

Pine Bluff—Electric-light Plant.—The city council has definitely decided to erect the electric-light plant recently reported as proposed; W. B. Alexander, mayor.

Pine Bluff—Electric-power Plant.—Matthew Roberts of Kansas City, Mo., who received franchise for street railway in Pine Bluff, will erect electric-power plant.

FLORIDA.

Gainesville—Woodworking Factory.—The Richmond (Va.) Spoke & Rim Co. is contemplating the erection of a factory in Gainesville, and has had a representative investigating the hardwood timber supply available.

Hartshorn—Phosphate Plant.—J. V. Burke is rebuilding entirely his phosphate plant (reported last week), and will double its capacity. Address at Montbrook, Fla.

Jacksonville—Knitting Mill.—The knitting mill previously reported as to be established by A. G. Bigelow and associates is known as the Jacksonville Knitting Mills; has now in operation five knitters for producing 250 dozen ladies' underwear garments daily; electricity used as motive power. New machinery may be added later; W. P. Shaver, manager.

Jacksonville—Naval-stores Company.—Chartered: The Standard Naval Stores Co., with capital stock of \$10,000.

Orlando—Sugar Mill.—George E. Macy has recently put in operation a new sugar-cane mill and new process evaporator.

Pensacola—Naval-stores Company.—The West Coast Naval Stores Co. has been incorporated, with capital stock of \$150,000 and J. R. Saunders, president; E. P. Rose, vice-president; P. J. Majette, secretary-treasurer.

Tallahassee—Naval-stores Company.—Chartered: The Naval Stores Co., with capital stock of \$10,000, by T. A. Jennings, De Soto D. Fitzgerald, C. P. Baker and others.

Tampa—Naval-stores Company.—The Tampa Naval Stores Co. has been incorporated to conduct a general naval-stores business; capital stock \$100,000; incorporators, T. A. Jennings, De Soto; D. Fitzgerald, C. B. Baker, M. J. Wood and C. A. Jacobson.

GEORGIA.

Cedartown—Cotton Mill.—The proposed cotton mill of William Parker and associates (recently mentioned) will be built and a site has been selected at Cedartown; an equipment of 10,000 spindles for spinning hosiery yarns will be installed, entire plant to cost \$160,000 to \$200,000; M. O. Berry of Columbus, Ga., will be president; A. W. Birkbeck of Cedartown, secretary-treasurer, and William Parker, manager.

Grantville—Gold Mines.—The Southern Cross Gold Mining Co., reported last week as to erect stamp mill, states that it is only prospecting at present, but later on may erect reduction plants as required; C. C. Frost, manager.

Griffin—Hardware Company.—Chartered: The Griffin Hardware Co., with capital stock of \$30,000, by W. J. Griffin, F. M. Irwin, J. A. Glover and others.

Lagrange—Cotton Mill, etc.—The Mutual Aid Society (composed of negroes) has purchased 150 acres of land as site for cotton factory to be erected; a cotton gin and coffin factory will also be operated. Cicero Revis (colored) may be addressed.

Montezuma—Harness and Saddle Factory.—W. E. & E. M. Vance of Buford, Ga., have established a saddle and harness factory at Montezuma.

Toccoa—Cotton Mill.—T. A. Copps and associates will erect a \$60,000 cotton mill.

Troup Factory—Cotton Mill.—The Troup Factory, recently purchased by Len Park, will be put in operation, after being thoroughly repaired and improved, and operated as the Park Cotton Mill.

Valdosta—Buggy Factory.—Obery & Fox will enlarge their buggy and wagon factory.

KENTUCKY.

Louisville—Cold-storage Plant.—The Louisville Ice Co. is building a four-story cold-storage plant, and not a three-story plant, as recently reported.

Louisville—Tobacco Factory.—The company recently reported as organizing to build a tobacco factory with 10,000,000 pounds annual capacity has been incorporated as the Manufacturers' Tobacco Co. by E. W. Russell of New York, John W. Whitman, Hugh Gorman, T. N. Sheppard and W. M. Keller of Louisville; capital stock \$250,000, with privilege of increasing to \$500,000.

LOUISIANA.

Abbeville—Rice Mill.—A rice mill will be established. Probably Kaplan & Blum of Crowley, La., can give information.

New Orleans—Wood and Coal Company.—Chartered: The C. A. Andrews Coal Co., Limited, to conduct general wood and coal business; Collis A. Andrews, president; capital stock \$10,000.

New Orleans—Woodworking Factory.—The Crescent City Manufacturing Co., Limited, has been incorporated to conduct a general woodworking business, capital stock \$50,000, by John C. Dodd, William Bell, Frank D. Chretien and others.

MARYLAND.

Baltimore—Barrel, Box, etc., Factory.—The National Package & Vendor Co. has been incorporated under the laws of Delaware to manufacture casks, boxes, barrels, etc.; capital \$50,000.

Baltimore—Safe and Iron Works.—The L. H. Miller Safe and Iron Works, recently reported as incorporated with capital stock of \$50,000 to continue the business of the L. H. Miller Safe Works, will probably increase its capital later on for further enlargement of its plant; Chas. W. Coggins, manager.*

Baltimore—Dredging and Contracting.—The Maryland Dredging & Contracting Co. has been incorporated under the laws of Delaware, with a capital stock of \$100,000, to conduct a general contracting business, especially on river and harbor improvements. Names of interested parties not yet announced.

Tuxedo Park—Water Works.—The Tuxedo & Embla Parks Water & Electric Co. will open bids this month for the construction of its water works, previously reported as to be built. H. A. Leonard, general manager, 2 St. Paul street, Baltimore, has plans and specifications in charge. D. G. Adelsberger prepared the plans, etc. Address the manager.*

Washington, D. C.—Woodworking Factory.—The Washington Woodworking Co., O. F.

Bailey, manager (corner 12th and B streets N. W.), is rebuilding its plant, recently reported burned.

MISSISSIPPI.

Aberdeen—Cotton Mill.—Dr. William M. Paine is organizing a \$120,000 stock company to erect cotton mill as lately reported.

Crystal Springs.—The city will issue \$35,000 of bonds for erection of electric plant and water works. Address "The Mayor."

Holly Springs—Cotton-oil Mill.—B. S. Hull and others contemplate organizing a company for the establishment of a cottonseed-oil mill, as recently reported.

Laurel—Saw-mill.—The Laurel Lumber Co. will erect another hardwood saw-mill, as reported last week; capacity 10,000 feet per day. Machinery all contracted for.

Natchez—Cotton Compress.—The Natchez Compress & Warehouse Co., whose plant was recently burned, has placed contract for a 90-inch 2000-ton press.

Starkville—Electric-light Plant and Water Works.—The city will construct a \$15,000 water-works system, and later on erect an electric-light plant. Address "The Mayor."

Tupelo—Cotton Mill.—A company, with capital stock of \$100,000, will be organized for erection of cotton mill; \$50,000 has been subscribed. Names of interested parties will be announced later.

Vicksburg—Pants Factory.—A company has been organized, with Adolph Rose, president, and L. Fischel, secretary and treasurer, for the manufacture of pants.

Vicksburg—Telephone System.—W. B. Garrett of Nashville, Tenn., agent of the Cumberland Telephone Co., is investigating preparatory to the construction of a \$40,000 long-distance system from Vicksburg to Lake Providence, La.

Vicksburg—Match Works.—The Diamond Match Works will be enlarged by an addition for sawing match-sticks and making cases, and the entire machinery of the Gould plant at Detroit, Mich., is to be moved to Vicksburg, doubling the capacity of the works.

MISSOURI.

Columbia—Paper Company.—George D. Allen, Chas. D. Garrett and Louis T. Booth have incorporated the Columbia Paper Co., with capital stock of \$50,000.

Granada—Lead and Zinc Mines.—The Minnehaha Mining Co. of Sioux Falls, S. D., organized with capital of \$200,000, has purchased and leased 3000 acres lead and zinc lands at Granada; machinery has been ordered for developing the property on an extensive scale.

Joplin—Mining and Milling.—The New England Zinc Co. has been incorporated, with capital stock of \$1,000,000, to conduct a general mining and milling business by W. H. McMannus of Brooklyn, N. Y.; J. Brown, L. B. Benker of New York, N. Y., and others.

Joplin—Mining.—C. W. Halderman, J. U. Carney and W. Kelly have incorporated the Mundie Mining Co., with capital stock of \$30,000.

Kansas City—Lead and Zinc Mines.—The Miller Hollow Zinc Mining Co. has been incorporated by W. E. Swentzel, William Huttig, G. P. Snyder and others, with capital stock of \$100,000.

Kansas City.—Chartered: The Home Builders' Land Co., with capital stock of \$25,000, by C. R. Hunt, E. H. Jones, J. E. Griffith and others.

Kansas City—Gas-light Company.—J. C. Dodd, H. M. Evans and Charles H. Dodd have incorporated the National Gas Light Co., with capital stock of \$5000.

Kansas City—Development Company.—Chartered: The Kansas City Development Co., with capital stock of \$3000, by R. F. Massa, E. C. Smith, Theodore Romley and others.

Kansas City—Tobacco Company.—The Western Tobacco Co. has been incorporated, with capital stock of \$25,000, by A. M. Egbert, E. B. Carscaden, George Peake and others.

Neosho—Mining.—Chartered: The Manila Mining Co., with capital stock of \$25,000, by G. F. Winter, R. L. Winter, G. W. Scott and others.

Sheffield—Gas, Gasoline-engine and Automobile Plant.—The Weber Gas & Gasoline Engine Co. of Kansas City will erect a plant at Sheffield, and in connection with its already established business will manufacture automobiles; the automobile plant will

be under control of separate companies, the Weber Company supplying the motive power for the manufactured machines.

St. Louis—Target Factory.—The Markle Lead Co., manufacturer of targets, has installed additional machinery to increase the capacity of its plant.

Webb City—Mining.—The Arkansas Mining Co. has been incorporated, with capital stock of \$24,000, by F. H. Dangle, E. M. Blsbee, D. J. Young and others.

Webb City—Mining.—The Relay Mining Co. has been incorporated, with capital stock of \$20,000, by W. F. Morrison, W. E. Hammond, J. G. Smith and others.

NORTH CAROLINA.

Asheville — Pharmacy Company. — Chartered: The Paragon Pharmacy Co. has been incorporated, with capital stock of from \$15,000 to \$50,000. Baxter Shemwell is president.

Charlotte—Woodworking Factory.—J. H. Wearn & Co., reported last week as having purchased the Star Mill, state that they will enlarge and equip it with woodworking machinery.

Charlotte — Water-power-Electrical Developments.—A correspondent informs the Manufacturers' Record that the General Electric Co. of New York is now negotiating for various riparian rights and lands on the Catawba river, the intention being to develop an extensive plant for furnishing light and power to surrounding towns, factories, etc. It is claimed that \$2,000,000 will be invested in the developments.

Cranberry—Iron Furnace.—The Cranberry Iron & Coal Co., C. H. Nimson, general manager, will put its 30-ton iron furnace in operation next month.

Faison—Lumber Company.—The McMullen-Miller Co. has been incorporated, with capital stock of \$50,000, by Albert E. McMullen, Wilbert H. McMullen and George Miller.

Hertford—Buggy, Harness, etc., Factory.—Zachariah Toms, Sidney McMullan and John R. McMullan have incorporated the Toms & McMullen Carriage Manufacturing Co., with capital stock of \$3750, to manufacture buggies, harness, carts, wagons, etc.

High Point—Shirt Factory.—The company lately reported to be organized by J. H. Willis and J. A. Turner for the establishment of a shirt factory has been incorporated as the High Point Shirt Manufacturing Co., with capital stock of \$2000, which may be increased to \$20,000.

North Carolina—Mining and Manufacturing Company.—The United Mining & Manufacturing Co. of Baltimore, Md., has been chartered in Delaware to engage in mining iron, zinc, tin and marble, particularly in North Carolina; capital stock \$250,000. Names of interested parties not known yet.

Raleigh—Shuttle-block Factory.—J. Elwood Cox of High Point, N. C., is considering the advisability of locating a shuttle-block factory in Raleigh.

Tarboro—Sewerage System.—The city will contract soon for three and one-half miles of sewerage system. J. L. Ludlow, Winston, N. C., is the engineer. Address George Howard, president public works board.

Washington—Laundry.—C. F. Sowers of Raleigh will establish steam laundry in Washington.

Wilmington—Cemetery Company.—A company has been organized to purchase site for new cemetery, with J. W. S. Harvey, president.

Wilson—Ice Factory.—The Wilson Oil Co. contemplates establishing an ice factory.

Winston-Salem—Electric-power Plant, etc. The Fries Manufacturing & Power Co., H. E. Fries, president, has, with Frank Battles of Philadelphia, Middendorf, Oliver & Co. of Baltimore, John L. Williams & Sons of Richmond, Va., purchased from the Twin City Construction Co. the entire plant of the Winston-Salem Railway & Electric Co., and will repair and extend the entire railway and lighting system.

SOUTH CAROLINA.

Blackstock — Telephone Company. — The Blackstock Telephone Co. has been incorporated, with Alex. McDonald, president; John M. Bell, vice-president; W. McKerrill, secretary-treasurer; capital stock \$10,000.

Charleston — Hardwood. — The Southern Hardwood Co. has been chartered, with capital stock of \$10,000; Henry C. Riley, president; James Cockshatt, secretary and treasurer.

Charleston—Rice Company.—J. L. Sheppard, Wm. E. Huger and John B. Reeves have incorporated the Carolina Rice Co., with capital stock of \$45,000, to deal in rice, succeeding the firm of J. L. Sheppard.

Honea Path—Pharmacy.—Chartered: The

Honea Path Pharmacy, with capital of \$2500, by Dr. C. M. Hough and others.

Honea Path—Clothing Company.—The Latimore Clothing Co. has been incorporated, with capital stock of \$5000; J. C. Latimore, manager.

TENNESSEE.

Bon Air—Coal Mines.—The Bon Air Coal Co. is developing new coal mines about ten miles from Bon Air.

Chattanooga — Clothes-wringer Factory.—Charles Hall of Clover & Hall is having plans made and purchasing machinery for a factory which he will erect to manufacture his patent washing machine and clothes-wringer.

Chattanooga—Veneering Plant.—It is reported that a party of capitalists will erect a \$100,000 veneering plant in Chattanooga. Names of interested parties will be announced later.

Chattanooga—Paper Company.—D. B. Morgan, D. George, E. Y. Chapin and others have incorporated the Morgan Paper Co., with capital stock of \$3000.

Chattanooga—Water Works.—The Chattanooga Company, Limited, will construct water-works system at Hill City.

Chattanooga—Lumber Mills.—The Loomis & Hart Manufacturing Co. will increase the capacity of its plant by the erection of a number of brick additions.

Chattanooga—Manufacturing Plant.—A. B. Wootson and others of Toledo, Ohio, are investigating with a view of locating a large manufacturing plant at Chattanooga.

Elizabethton—Lumber Company.—The Iron Mountain Lumber Co. has been incorporated to conduct lumber business by C. F. Carvin, J. W. Tipton, L. F. Miller and others; capital stock \$10,000.

Harriman — Iron Plant. — The Knoxville Iron Co. will erect a new building and install additional machinery to double the capacity of its Harriman plant.

Harriman — Miners' Supply Factory. — Wadsworth & Son of Pennsylvania will establish a plant for the manufacture of mine-car wheels and miners' supplies. Address, care of Harriman Land Co.

Knoxville—Packing Plant.—The East Tennessee Packing Co. has increased its capital stock (as lately reported) from \$25,000 to \$50,000 for the purpose of buying out a competing concern.

Knoxville—Abattoir.—The Knoxville Butchers' Abattoir has been organized, with Harry Young, president; Ignaz Fanz, vice-president; T. D. Smith, treasurer, and Asa Butler, secretary; company will erect large abattoir at Knoxville; is now operating at Sharps Gap.

Memphis—Manufacturing.—The Hart Manufacturing Co. has been incorporated, with capital stock of \$50,000, by C. L. Watson, J. H. Hart, A. W. Whitaker and others.

Memphis—Iron Works.—The Globe Iron Works has been incorporated, with capital stock of \$50,000, by James Lee, Jr., W. T. Ahrens, W. R. Rodgers and others.

Napier—Furnace.—The Napier Iron Works has thoroughly repaired and will blow in its charcoal furnace at Napier.

Nashville — Construction Company.—Chartered: The Nashville Construction Co., with capital stock of \$5000, by A. W. Willis, T. M. Steger, L. L. Terry and others.

Nashville—Shoe Company.—James B. Richardson, E. R. Richardson, R. E. Magill and others have incorporated the Richardson Brothers Shoe Co., with capital stock of \$300,000.

New Market—Flour Mill.—Witt & Co. will increase the capacity of their steam flour mill by the erection of an addition 32x42 feet.

Pinkney—Iron Furnace, Ore Lands, etc.—The Pinkney Mining Co. has been incorporated, with Vance C. McCormick of Harrisburg, Pa., president; H. B. McCormick of Harrisburg, Pa., secretary-treasurer, and Daniel King, general manager. The company has acquired control of 1200 acres of iron-ore lands in Lawrence county, including a mining plant near Pinkney, and will develop the property, and in a short time will, it is said, erect a 200-ton capacity blast furnace. Capital stock is \$50,000.

Spring Hill—Phosphate Mines.—Phosphate mines are being developed on property of Mrs. Laura Brown, near Spring Hill.

West Point—Iron-ore Lands.—The United States Iron Co., a New Jersey corporation organized with paid-up capital of \$1,000,000, has purchased the entire property of the West Point Mining & Manufacturing Co., including equipment, washers, etc., and a number of other properties in Northern Alabama and Southern Tennessee, aggregating 6000 acres of brown iron-ore lands, and will develop on an extensive scale; J. W. Gates of Chicago, president.

TEXAS.

Abilene—Cotton Mill.—Efforts will be made for the organization of a stock company to erect a cotton mill. Address Fred. Cockrell.*

Alvin — Canning Factory.—M. McCulloch contemplates establishing a canning factory at Alvin. Address care of W. B. Blair.

Bartlett—Cotton-oil Mill.—The T. Bartlett Oil Mill Co. has been incorporated, with capital stock of \$30,000.

Beaumont—Textile Mill.—J. Howard Bromley of Philadelphia, Pa., has addressed W. B. Crawford of Beaumont relative to the formation of a company for the establishment of a 100-loom, etc., textile mill in Beaumont.

Dallas—Truck-lifter Factory.—The Globe Railway Supply Co. has been incorporated to manufacture a patent truck lifter; capital \$100,000; incorporators, J. M. Buther, G. Brown of Deaver, Col.; J. T. Trezevant, J. L. Stephens and others of Dallas.

El Paso—Foundry and Machine Shops.—The Pass City Foundry & Machine Co., lately reported as having increased its capital stock, has done so for the purpose of enlarging its plant.*

Hillsboro—Cotton Mill.—A. L. Lowry and associates will organize a \$50,000 company for the establishment of a cotton mill, as recently reported; one-third of the sum has already been subscribed.*

Houston—Electric-light Plant.—The city has voted an issuance of \$100,000 in bonds for the erection of an electric-lighting plant. Address "The Mayor."

Ives—Lumber Company.—The Ives Lumber Co. has been incorporated, with capital stock of \$5000, by J. I. Campbell, Lee Campbell and Y. M. McNeil.

Laporte—Improvement Company.—The Laporte Improvement Co. has been incorporated, with a capital stock of \$1,000,000, by I. H. Holmes of Laporte, J. Lobit of Galveston, John D. McCall of Austin, Francis H. Wilson of Brooklyn, N. Y., and others. Wm. Gallatin Carroll & Co., 40 Wall street, New York, financial agents of the company, can give full particulars.

Longview—Cooperage.—The Dallas (Texas) Cooperage Co. has made a proposition for the establishment of a plant at Longview.

Lorena—Water Works.—J. W. Whitset and Benjamin Hatch are the incorporators of the Lorena Water Co., recently reported.

Rockdale — Lignite Company.—Chartered: The Arkansas Pass Lignite Co., with capital stock of \$10,000, by J. S. Perry, P. H. Perry and C. M. Perry.

San Antonio—Electric-power Plant.—C. H. Beauchamp of Dallas, Texas, has purchased the West End Street Railway, and will expend between \$5000 and \$10,000 in improving it.

Sherman—Electric-power Plant.—The Denison & Sherman Railway Co., recently organized, will erect an electric-power plant. J. P. Withers, president of the Grayson County National Bank, can probably give particulars.

Terrell—Grain Elevator.—The Terrell Milling Co. is arranging to rebuild its elevator, and will remodel and increase storage capacity by adding one or two iron or steel tanks.*

Wills Point—Drug Company.—The Garrett Drug Co. has been chartered, with capital of \$2000, by M. E. Garrett and others.

Yoakum—Immigration, etc., Company.—Chartered: The San Antonio & Aransas Pass Railway Immigration Co., with capital stock of \$10,000.

VIRGINIA.

Berkley—Saw-mill.—E. H. Barnes states that he has not leased the Maine saw-mill at Deep Creek, as was reported last week.

Leesburg—Flour Mill.—C. N. Taylor & Sons have awarded contract for thoroughly remodeling and improving their flour, corn and feed mill.

Norfolk—Barrel Factory.—The Tilghman Lumber Co. is rebuilding its barrel factory, previously burned.

Portsmouth—Printing and Publishing.—Chartered: The Portsmouth Star Publishing Co. to conduct general publishing and printing business; F. D. Gill is president; Paul C. Trueglin, secretary-treasurer; capital stock from \$10,500 to \$25,000.

Richmond — Paint, etc., Factory. — The Worthington Company (recently reported as incorporated) has organized to succeed C. W. Tanner & Co., manufacturers of paints and colors of all kinds, painters' supplies and lubricating oils; new company anticipates the erection of a larger factory to increase facilities; R. C. Worthington, president.

Richmond—Automobile Factory.—The Old

Dominion Motor Carriage Co. (reported last week as incorporated) will engage in the manufacture of self-propelled vehicles of all descriptions, for which large warehouse and store will be erected by next spring, when all necessary machinery will be wanted. Address for particulars Andrew Pizzini, Jr., 909 Bank street.*

Roanoke — Cold-storage Plant.—The Virginia Brewing Co. is having plans made by H. H. Huggins for a cold-storage plant; capacity will be fifteen tons of ice per day, with a refrigerating capacity of twenty tons.

Waverly—Mercantile.—The Waverly Mercantile Co. has been organized, with W. H. Calhoun of Christiansburg, president, and a capital stock of \$5000.

West Point—Cellulose Factory.—The Marsden Cellulose Co. of Philadelphia, Pa., A. G. Winter, general manager, reported last week to erect a branch factory in West Point, will erect several buildings, three stories high, of brick, frame and corrugated iron, the main one of which will be 150x70 feet; buildings will include two warehouses, ten cribs 500x30 feet and twenty-five feet high, with a capacity of about 10,000 tons of clean-cut stalks, a stalk-cutting building 70x150 feet. The buildings and machinery will cost about \$150,000.

Whaleyville — Dry-kilns. — The Jackson Bros. Co. of Salisbury, Md., reported last week as to erect four dry-kilns at Whaleyville, states that it has about completed thirteen dry-kilns and will erect three more.

Yorktown—Telephone and Telegraph Company.—The Chesapeake Telephone & Telegraph Co. has been incorporated to construct and maintain telegraph lines by E. E. Slight, B. F. Crockett, E. S. Moore of Crab Neck, T. T. Hudgeons of Yorktown and others; capital stock \$20,000.

WEST VIRGINIA.

Charleston — Coal Company.—The Cabin Creek Coal Co. has been incorporated, with capital stock of \$200,000, by H. A. Robson of Cotton Hill, L. Pritchard, A. M. Pritchard, D. L. Ruffner of Charleston and others.

Clarksburg—Oil Company.—The Home Oil Co. has been incorporated, with authorized capital of \$1,000,000, by M. G. Sperry, Frank G. Bland, C. E. Barr and others.

Crown Hill—Coal Mines.—The Kanawha Coal Mining Co., which recently purchased the Black Cat coal mines, has also purchased the Crown Hill coal mines, and will operate both; electrical machinery will be installed at Crown Hill; a car-loader will also be added.

Martinsburg — Roller-gin Company. — The Advance Roller Gin Co. of London, England, has been incorporated by W. C. Leonard, J. W. Green, Mac McKee, W. E. Wilson and Eugene Sampson, all of Martinsburg, W. Va. The authorized capital is \$5,000,000.

Welch—Lumber Company.—The Long Point Lumber Co. has been incorporated, with an authorized capital of \$40,000, by W. J. Newenham, William Lang, M. P. Deagan, all of Pocahontas, Va., and others.

Wheeling—Iron and Tinplate Works.—Jas. A. Beaver of Bellefonte, Pa.; W. H. Rogers of Wheeling; N. E. Whittaker, Wheeling, W. Va.; W. E. Tustin, C. A. Dally, A. B. Dally, Jr., of Pittsburgh, Pa., and others have incorporated the National Tinplate Co. to manufacture iron, tinplate and other metals in various forms; authorized capital \$5,000,000. The company will introduce some improvements in tinplate manufacture invented by W. H. Rogers of 15th street, Wheeling.

Wheeling—Brick, Terra-cotta and Lumber Company.—The Midland Brick, Terra Cotta & Lumber Co. has been incorporated, with an authorized capital of \$100,000, by Charles W. Franzheim, J. N. Vance, Wynn Hubbard and others.

Wheeling — Brewery. — The Schmulbach Brewing Co. will erect a new two-story brick and stone building 100x90 feet to contain washhouse, shipping rooms, pitch yard and cooper shop, and to cost \$20,000.

Wheeling—Iron and Steel Mill, etc.—The Wheeling Iron & Steel Co. is fitting its new slate mill with a third blasting furnace and contemplates erecting another plate mill of similar capacity in the near future. A new casting-house of structural iron is now being built.

BURNED.

Danville, Va.—F. X. Burton & Co.'s tobacco factory.

Memphis, Tenn.—The Planters' warehouse, the Woods-Chickasaw Company's warehouse and plant of Louisiana Molasses Co.; estimated loss \$250,000.

New Orleans, La.—Barber Asphalt Paving Co.'s plant; loss about \$10,000.

Pine Bluff, Ark.—F. J. Jarvis' cotton gin; estimated loss \$5000.

Shenandoah Junction, W. Va.—Lemon & Co.'s grain elevator; estimated loss \$5000.

BUILDING NOTES.

Baltimore, Md.—Theater.—A. L. Kayton of Norfolk, Va., has leased building No. 1 North Gay street, Baltimore, and will remodel it at a cost of \$5000 for theater purposes.

Baltimore, Md.—Dwellings.—M. A. C. Bready will erect sixteen three-story brick dwellings to cost \$3500 each; William N. Hildebrand will erect forty-nine two-story brick dwellings at a cost of \$40,000.

Chattanooga, Tenn.—Building.—The Loveman Building Co. has been incorporated by D. B. Loveman, B. E. Loveman and John C. Twinn.

Comanche, Texas—Jail.—Comanche county will issue \$20,000 of bonds for erection of new jail. Address "County Clerk."

Crystal Springs, Miss.—Warehouse.—The Crystal Springs Cotton Warehouse, recently reported burned, will be rebuilt.

Gainesville, Fla.—School.—The bids on the erection of the municipal school building recently reported will be received until December 1. Plans and specifications can be seen at J. H. Vidal's in Gainesville or at office of the architects, Wilson & Edwards, Columbia, S. C., or copies of plans, etc., will be sent to bidders on request to Wilson & Edwards; bond in \$7500 will be required.

Greensboro, N. C.—Jail.—Hayden, Wheeler & Schwend, Charlotte, N. C., have prepared plans for the new jail previously reported to be erected at Greensboro; bids will be received on the building until December 6; cell work will be let separately.

Grifton, N. C.—Warehouses.—The Grifton Warehouse & Manufacturing Co. has been organized, with capital of \$5000, for the erection of the two warehouses recently reported to be built. Address J. R. Harvey, secretary.

Houston, Texas—Colleges.—Contract was awarded to Jenkins & Robb of Bryan, Texas, at \$27,381 for erection of buildings for Agricultural and Mechanical College, and to Mr. Chapman of Hempstead, Texas, at \$9365 for erection of brick dormitory.

Jacksonville, Fla.—Warehouse.—The C. B. Rogers Company will erect a large warehouse.

Joplin, Mo.—Office Building.—Colley & Co. of Boston, Mass., contemplate erecting a five-story office building in Joplin to cost \$200,000; plans have been prepared by A. C. Michaelis.

Louisville, Ky.—Church.—The Fourth and Walnut Street Baptist Church will erect new edifice. Address Dr. Eaton, pastor.

Nashville, Tenn.—Building.—The Chamber of Commerce will purchase site for \$52,000 for the erection of its proposed \$150,000 building.

Newport News, Va.—Church.—The Newport News Baptist Church will erect a new edifice. Address "The Pastor."

Osceola, Ark.—Hotel.—The Osceola Improvement Co. has been incorporated to erect a hotel by J. L. Driver, J. D. Driver, C. H. Gaylord, W. P. Hale and others; capital stock \$10,000.

Piedmont, Ala.—Tenement-houses.—The Coosa Manufacturing Co. has contracted with O'Neill Manufacturing Co. of Rome, Ga., for the erection of forty tenement-houses at Piedmont.

Raleigh, N. C.—Building.—The North Carolina Home Insurance Co. has awarded contract to Pool & Keith for the erection of its three-story 53x80-foot building. Pearson & Ashe prepared the plans.

Savannah, Ga.—Residence.—A. B. M. Gibbs will erect a \$15,000 residence.

Shreveport, La.—Dwellings.—Dr. J. P. Scott will erect residence; J. W. Atkins of Knox Point has purchased site at Shreveport for \$3250 and will erect a residence.

Summerville, S. C.—Depot.—The Southern Railway Co. will erect new passenger station at Summerville. Jos. H. Sands, superintendent, Charleston, S. C., can be addressed.

Tupelo, Miss.—Bank Building.—The Bank of Tupelo is erecting new building.

Heating and Ventilating Apparatus for Berlin.—The German Garvin Machine Co.'s new plant, now erecting in Berlin, Germany, will be furnished with hot-blast heating and ventilating apparatus by the Buffalo Forge Co. of Buffalo, N. Y. This Buffalo company disposes of its product throughout the world, as the merits of the machinery and apparatus produced by its shops continue to find universal favor.

RAILROAD CONSTRUCTION.

Railways.

Anniston, Ala.—Howard W. Sexton and others have secured a franchise from the city council allowing them to build their proposed railroad line from the Coosa coal fields to Anniston within the city limits.

Ashpole, N. C.—Of the eleven miles of extension of the Atlantic Coast Line between Ashpole and Boardman, N. C., eight miles are completed, and the balance will be ready for operation before January 1. John R. Kenly at Wilmington is general manager of the company.

Baltimore, Md.—The Baltimore & Washington Land & Lumber Co. is interested in a plan to build an electric line in the western suburbs, and has asked for a franchise from the Baltimore county commissioners.

Belington, W. Va.—The Belington & Beaver Creek Railroad Co. has been chartered to build a line from Belington through parts of Barbour and Randolph counties to Laurel creek. The company is capitalized at \$200,000. Among those interested are C. A. Beckett and Charles Brandenberger.

Birmingham, Ala.—A report is current that the Kansas City, Memphis & Birmingham Railway Co. is making surveys for a line between Birmingham and Brunswick, Ga., a distance of 340 miles. Edward S. Washburn at Kansas City, Mo., is general manager of the company.

Chattanooga, Tenn.—It is announced that final surveys are being made for the division of the Southern Railway between Chattanooga and Stevenson, Ala. W. H. Wells, at Washington, is chief engineer.

Chattanooga, Tenn.—The Missing Link Railroad Co. has organized by electing W. L. Albright of Blue Ridge, Ga., president, and Vaux Gibbs of Mountain Scene, Ga., secretary and treasurer. This is the road which it is proposed to build from Chattanooga to a connection with the Southern Railroad at Walhalla, S. C.

Columbia, Ala.—The Chattahoochee & Gulf Railroad has been surveyed south from Columbia a distance of about seventy miles, while grading contracts have been let for about ten miles. E. T. Comer at Savannah, Ga., is president of the company, and C. K. Lawrence at Columbia is superintendent of construction.

Corsicana, Texas.—F. C. Hand is promoting the Corsicana & Southeastern Railroad, projected between this town and Sabine Pass, Texas, a distance of 220 miles. William Elliot is engineer.

Covington, La.—J. M. Yates, engineer of the Eastern Louisiana Railroad, informs the Manufacturers' Record that it will be twenty-eight miles in length, and surveys have been completed. Bonds are now being floated, and it is stated that the road will be built at an early date. Babington Bros. of Franklinton, La., are promoting the enterprise.

Cumberland, Md.—Surveys are being made in the interest of the Baltimore & Ohio for a line about three miles long near Cumberland, which will be utilized for freight business. F. D. Underwood at Baltimore is manager.

Elizabeth City, N. C.—Surveys have been completed for the Elizabeth City & Western Railroad being promoted between Elizabeth City and Bosley, N. C., a distance of thirty miles. David Cox, at Hertford, N. C., is engineer of the company.

Elsie, N. C.—The Elsie Lumber Co. has been incorporated and given authority by the State to build tramways to reach its property near Elsie. Among those interested is J. G. Foushee of Greensboro, N. C.

Fayetteville, Ark.—Contracts. It is reported, have been let for the Northwest Arkansas & Indian Territory Railroad between Fayetteville and a connection with the Kansas City, Pittsburg & Gulf system, a distance of thirty miles. The Arkansas Construction Co. has been formed to build the road. W. A. Bright is manager.

Fort Worth, Texas.—The latest report concerning the Fort Worth & Rio Grande Railroad is that it will be extended from Brownwood, possibly to San Antonio. Surveys are reported as being made. W. B. King, at Fort Worth, is general manager.

High Point, N. C.—The Business Men's Association is negotiating with the Seaboard Air Line to endeavor to secure a branch of this system to High Point.

Hot Springs, Ark.—The project to build a railroad from Hot Springs to a connection with the Kansas City, Pittsburg & Gulf Railroad has been taken up by C. C. Godman and others. The line, if built, will be eighty-five miles in length, and extend through Waldron, Ark.

Houston, Texas.—A charter is to be secured immediately for the Houston, Brazos & Northern Railroad, which will utilize the right of way of the former Texas Western Railroad, and is to be built from Houston to a point in Indian Territory, with a branch line to Sealy, Texas. R. W. Hall is the principal promoter of the enterprise.

Huntington, W. Va.—The Guyandotte Valley Railway Co. is ready to let contracts for the construction of thirty miles of its line. Bids will be received until November 28 at Huntington for the necessary grading, masonry and trestle work, as well as rails, etc. George McKendree is chief engineer. About 3800 tons of 75-pound rail will be needed.

Jacksonville, Fla.—The Jacksonville & Southwestern Railway Co. has surveyed its line as far as Newberry, in Alachua county, a distance of eighty-nine miles from Jacksonville. Fifty-four miles of the road are now being operated between Jacksonville and Lake Butler. Construction work is in progress on the extension. James R. Barnett of Grand Rapids, Mich., is president of the company, and W. W. Cummer of Jacksonville, general manager.

Jefferson, Texas.—Surveys are now in progress on the proposed extension of the Missouri, Kansas & Texas Railroad between Jefferson and Waskom, a distance of twenty-five miles. A. A. Allen at Dallas, Texas, is general manager.

Keyser, W. Va.—Surveys have been completed for the proposed railroad from Keyser to Moorefield, a distance of forty miles, which, it is stated, is being promoted by the United States Leather Co. James B. Caldwell is engineer.

Little Rock, Ark.—About half of the grading of the Little Rock & Hot Springs Western Railroad has been completed between Benton and Little Rock, and tracklaying is in progress on the section between Benton and Hot Springs. S. W. Fordyce is at the head of the enterprise.

Little Rock, Ark.—The Dalhoff Construction Co. has been incorporated to build electric and steam railroads. H. Dalhoff is president; E. L. Dalhoff, vice-president, and Homer Ford, secretary. This company will probably build the extension of the Des Arc & Northern Railroad, recently referred to in the Manufacturers' Record.

Louisville, Ky.—The Manufacturers' Record is advised that the Louisville & Nashville contemplates building several short branches in Alabama and Tennessee. The track will be laid with second-hand rails. R. Montfort at Louisville is chief engineer of the company.

Mt. Pleasant, Tenn.—Right of way is being secured along the route of the proposed Mt. Pleasant, Tennessee River & Milan Railway. A. M. Hughes has been elected president of the company.

Nashville, Tenn.—The Nashville, Florence & Northern Railroad Co. has been chartered to build a line from Nashville through Davidson and Sumner counties to the Kentucky State line. It is understood that this line is to form a part of a new route to Louisville, Ky., and will also be extended south to Florence, Ala. Jere Baxter, president of the Tennessee Central Railroad Co., also Robert L. Morris of Nashville, are interested in the new enterprise.

Norfolk, Va.—It is reported that James R. Werth of Richmond has become interested in the railroad proposed between Norfolk and Cape Henry, which is being promoted by the Princess Anne, Cape Henry & Lynnhaven Bay Railroad Co. A line is to be built between Virginia Beach and Cape Henry, a distance of seven miles, and it is understood the tracks of the Norfolk & Virginia Beach Railroad will be used to reach Norfolk.

Orlando, Fla.—It is reported that B. N. Duke of Durham, N. C., is interested in a company which has purchased about 100,000 acres of land in Lake county, and will construct a railroad through it to connect with the Florida Central & Peninsular or the Florida East Coast Railroad. The sale was made through McQuaig & Beecham of Orlando.

Philippi, W. Va.—Messrs. Wade, Burns & Co. of Baltimore have secured a contract to grade a line about seven miles long in West Virginia, which will be a feeder of the Baltimore & Ohio system.

Rockville, Md.—The Washington & Rockville Railway Co. has secured a franchise to construct its electric line through several streets within the town limits. The road is now under construction from the suburbs of Washington to Rockville.

Rowlesburg, W. Va.—David L. Luke of Luke, Md.; Joseph J. Cass of Tryon, Pa., and Preston Lea of Wilmington, Del., are interested in the Greenbrier & Cheat River Railroad Co., recently incorporated to build from

the forks of the Greenbrier river to Rowlesburg, on the Baltimore & Ohio system.

Saluda, S. C.—The Saluda & Johnston Railroad Co., promoting the line from Saluda to Johnston Station, on the Southern Railroad, has elected Alvin Etheredge, president, and J. B. Hunter, secretary. The proposed line will be thirteen miles long.

Savannah, Ga.—Most of the grading on the extension of the Georgia & Alabama Railroad from Meldrim, its present terminus, to Savannah has been completed, while about five miles of rails have also been laid. L. R. Wright is contractor for the work.

Springfield, Mo.—W. B. Doddridge, general manager of the Missouri Pacific Railway Co., writes the Manufacturers' Record that preliminary surveys are being made for the extension between Springfield and Bagnell, but no decision has been reached as to its construction. Mr. Doddridge may be addressed at St. Louis.

Vienna, Ky.—Surveys are now in progress for the Chicago, Paducah & Southeastern Railroad, which proposes building through Vienna to Paducah. Messrs. Johnston Bros., contractors of St. Elmo, Ill., are reported as associated with the enterprise.

Waco, Texas.—A surveying party, understood to be in the interest of the Chicago, Rock Island & Texas Railroad, is laying out a branch from Bridgeport, Texas, to Waco by way of Fort Worth. The distance is 130 miles. S. B. Hovey at Fort Worth is president of the company.

Washington, D. C.—It is understood that the Baltimore & Ohio Railroad Co. has determined to build about one mile of track at Hyattsville to make a better connection with the Washington & Chesapeake Beach Railroad. F. D. Underwood at Baltimore is general manager of the company.

Whitney, Texas.—The business men of Whitney are promoting a branch railroad from this town to Hillsboro to connect with the St. Louis Southwestern system. The mayor will give further information.

Street Railways.

Atlanta, Ga.—The Atlanta Railway Co. has begun work upon its extension to Grant Park and other points in the suburbs.

Birmingham, Ala.—A report is current that the Elyton Company proposes improving the street railway, which is a part of its property, and that it may build several extensions. William Halls, Jr., cashier of the Hanover National Bank of New York, is associated with the company.

Charlotte, N. C.—The company which is developing the water-power of the Catawba river, it is announced, may interest itself in another street-railway system to be built in Charlotte and suburbs. Messrs. Dekker, Mason & Co. of New York are connected with the enterprise.

Joplin, Mo.—J. W. Baker is interested in a proposed street railway in Joplin and is endeavoring to secure a franchise from the city authorities. Mr. Baker is understood to represent Colley & Co. of Boston, Mass.

Knoxville, Tenn.—L. D. Dillon is interested in a proposed electric line between Knoxville and Lyons View, in the suburbs. The county court has granted the company right of way.

Mobile, Ala.—Messrs. J. C. Rich and D. E. Burgess of Mobile are interested in a street-railway system which it is proposed to build in the city and suburbs. It will be operated by an electric system if constructed.

Pine Bluff, Ark.—Matthew Roberts of Kansas City, Mo., has secured a franchise to construct an electric railway, of which six miles are to be built during the next twelve months.

San Antonio, Texas.—C. H. Beauchamp of Dallas has purchased the West End Street Railway at auction, and, it is reported, will relay the line with heavier rails and make other improvements.

Sherman, Texas.—The Denison & Sherman Railway Co. has purchased the street-railway systems of both cities, and, it is reported, will extend them and make several important improvements. The company is capitalized at \$275,000. J. P. Withers, president of the Grayson National Bank of Sherman, is president of the company.

Winter Schedule York River Line.—The Baltimore, Chesapeake & Richmond Steamboat Co. of Baltimore gives special notice of its winter schedule on the York River Line. The service will be tri-weekly after the 14th inst., as follows: Steamers leave Baltimore on Tuesdays, Thursdays and Saturdays at 5 o'clock P. M., and leave West Point, Va., on Mondays, Tuesdays and Fridays at 6 P. M. All landings on the York river will be made every trip in each direction.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Automobile Factory.—Old Dominion Motor Carriage Co. will want next spring machinery for automobile factory. Address Andrew Pizzini, Jr., 909 Bank street, Richmond, Va.

Belting.—Nashville Belting Co., F. B. Anderson, manager, Nashville, Tenn., is in the market for second-hand belting of all kinds.

Boiler.—G. B. Cooley, Monroe, La., is in the market for a boiler of about twenty to twenty-five horse-power.

Brick Machinery.—W. R. Satterfield, Cartersville, Ga., desires to correspond with manufacturers of brick machinery.

Conveyors.—See "Grain-elevator Machinery."

Cotton Mill.—Fred. Cockrell, Abilene, Texas, desires to correspond with manufacturers of cotton-mill machinery.

Cotton Mill.—A. L. Lowry, Hillsboro, Texas, wants to correspond with manufacturers of cotton-mill machinery.

Electrical Machinery.—Dr. Jos. A. Turner, secretary High Point (N. C.) Shirt Manufacturing Co., desires to correspond with manufacturers of electric motors.

Electrical Machinery.—Wisconsin Machinery Co., Milwaukee, Wis., is in the market for two high-speed automatic engines from 150 to 175 horse-power, four motors of fifty horse-power each; also two large dynamos, capacity from 1400 to 1800 16-candle-power lamps, new or second-hand.

Engine.—Dr. James A. Turner, secretary High Point (N. C.) Shirt Manufacturing Co., wants to correspond with manufacturers of gasoline engines.

Engines.—See "Electrical Machinery."

Engines.—Jas. N. Cummings, Gore, Ga., wants catalogues on engines.

Gasoline Engine.—See "Engine."

Grain-elevator Machinery.—Terrell Milling Co., Terrell, Texas, will want some cleaning machinery, conveyors, scales, wagon dumps, etc.

Hosiery Mill.—Wanted—General information concerning the manufacture of hosiery and estimates on cost of mill to produce 500 dozen women's hose daily. Address "Hosiery Mill," care of Manufacturers' Record.

Irrigation Machinery.—See "Pump."

Lining Paper.—Cartersville Book Store, Cartersville, Ga., wants addresses of manufacturers of paper especially prepared for lining yellow ochre barrels for exportation.

Machine Tools.—L. H. Miller Safe and Iron Works, Chas. W. Coggins, manager, 24 West Baltimore street, Baltimore, Md., wants one engine lathe, 20 to 24-inch swing, 12 to 16-foot bed, new or second-hand; one set heavy rolls for straightening plates one and one-quarter inches thick and forty-eight to sixty inches wide; also one medium-size planer twenty-four to twenty-eight inches by five or six feet.

Machine Tools.—Pass City Foundry & Machine Co., El Paso, Texas, is in the market for a power punch and shear, set of rolls and possibly a steam hammer.

Mining Machinery.—Jas. N. Cummings, Gore, Ga., wants catalogues on mining machinery.

Pump.—Baker & Lewis, Houston, Texas, will be in the market for pump for irrigation purposes.

Railway Construction.—J. L. Caldwell, president Guyandotte Valley Railway Co., Huntington, W. Va., will receive bids up to November 28 for the grading, masonry, trestle work, ties, bridges, rails, etc., for steam railway thirty miles long. Plans and specifications on file with Geo. McKendree, chief engineer, Huntington, and open for inspection. Form of contract also on file.

Railway Equipment.—Southern Railway will contract about December 15 for 2500 box cars; Frank S. Gannon, general manager, Washington, D. C.

Railway Equipment.—Ernest E. Conrad, 313 Stephen Girard Building, Philadelphia,

Pa., wants thirty-three miles of about 25-pound rails in good condition for delivery at Tampico, Mexico, or El Paso, Texas; state price, fastenings, length of time used, etc.

Railway Equipment.—S. D. Crenshaw, secretary, P. O. Box 374, Richmond, Va., wants about 135 tons of 40-pound or 100 tons of 50-pound second-hand "T" rails for relaying purposes.

Railway Equipment.—The Seaboard Air Line, E. St. John, president, Portsmouth, Va., will soon order fifty locomotives and 200 freight box cars.

Roofing.—J. C. Jackson & Son, Wilsonville, Ala., are in the market for fifty to sixty squares of prepared roofing for planing mill.

Sand and Cement.—Sealed proposals for furnishing and delivering at shafts of Washington aqueduct tunnel cement and sand will be received at the office of Washington Aqueduct, No. 2728 Pennsylvania avenue, Washington, D. C., until November 20; information on application; A. M. Miller, lieutenant-colonel engineers.

Scales.—See "Grain-elevator Machinery."

Sewerage System.—The city of Tarboro, N. C., will open proposals November 28 for the construction of pipe sewers and for furnishing the piping; extent of proposed work three and one-half miles of sewers, from eight to fifteen inches diameter. For specifications, forms of proposal, etc., address George Howard, president public works board.

Stave Machinery.—See "Woodworking Machinery."

Steel Rods.—Fillée & Jacquet, 16 Rue du Grand Central, Charleroi, Belgium, are in the market for 2000 to 3000 tons of steel rods, Nos. 5, 6 or 7, or thinner; quotations must give size of coils, their weight and the length of the wire, and be quoted delivered at Antwerp; send samples.

Tile Manufacturers.—Southern Lime & Cement Co., No. 276 East Bay street, Charleston, S. C., wants addresses of glazed-tile works.

Undertakers' Supplies.—William Aey, Jr., Amite City, La., wants catalogues from manufacturers of burial caskets.

Water Works.—Tuxedo & Embla Parks Water & Electric Light Co. will open proposals November 25 for the construction of water works after plans and specifications by D. G. Adelsberger. Plans and specifications can be seen at office of general manager, H. A. Leonard, 2 St. Paul street, Baltimore, Md., or address for specifications.

Wire-working Machinery.—Robert Grimshaw, A 3, Dresden, Germany, wants prices on machinery for wire-nail plant, wants machine for coiling and knotting spiral bed springs (both single and double spiral); also wants sewing machine, with extra long arm, for working the edges of circular holes in middle of filter clothing eighty inches diameter to keep the edges from ravelling; wants agents' prices f. o. b. Hoboken, N. J.; state net and gross weights, dimensions, etc.

Woodworking Machinery.—James N. Cummings, Gore, Ga., wants catalogues on woodworking machinery of all kinds.

Woodworking Machinery.—Thos. B. Peirce, Warsaw, N. C., wants to buy machinery for making insulator pits, brackets, etc.

Woodworking Machinery.—McCay & Haight, Morgantown, W. Va., want second-hand keg-stave machinery.

TRADE NOTES.

Morse Elevator Works.—Messrs. Morse, Williams & Co. of Philadelphia, Pa., announce the removal of their main offices to the West End Trust Building, Broad street and South Penn Square.

Magnolia Metal in Cleveland.—A branch office has been established at Cleveland, Ohio, by the Magnolia Metal Co. of 266 West street, New York city. The new office is at 15 S. Water street.

Stamp Mills for British Columbia.—The Ymlr Gold Mines, Limited, of British Columbia have ordered machinery for forty additional stamps from Messrs. Fraser & Chalmers of Chicago.

Transmission Plant for Sweden.—A complete transmission plant to be used for electrical purposes has been shipped to Sweden by the American Impulse Wheel Co. of 120 Liberty street, New York city.

Steel-Frame Construction.—Messrs. Wm. B. Scaife & Sons of Pittsburgh, Pa., have contract to manufacture and erect steel-frame construction for new buildings for the W. Dewees Wood Co. at McKeesport, Pa.

Electrical Equipment for Cuba.—Among the recent contracts filed by the General

Electric Co. was one to supply three 850-kilo-watt direct-connected generators and 110 complete car equipments, etc., for the Havana (Cuba) Electric Railway Co. The contract amounts to \$178,000.

Power Transmission for Japan.—Contract for a lot of power-transmission machinery for a railroad machine shop at Yokohama, Japan, has been awarded to the A. & F. Brown Co. of New York. A representative of the Yokohama company visited this country to make the contract.

Coal and Timber Lands Offered.—Central West Virginia has many fields of coal and timber that are yet to be developed. Numerous tracts of land in the territory are offered for sale by Messrs. Scott & Cobb of Elkins, W. Va. The firm's advertisement refers more particularly to the properties.

Mr. E. W. Saunders, who has for several years been the salesman for the Pratt & Whitney Co. of Hartford, Conn., in the New York store, is now in charge of the machinery department of the Fairbanks Company of Baltimore, which has the Southern agency for the entire product of the American Tool Works Co. of Cincinnati, Ohio.

Machinery for Brazil.—Contract for considerable elevator and conveying machinery, amounting to about \$17,000, has been obtained by the Webster Manufacturing Co. of Chicago. This machinery is to be shipped to Manaus, Brazil, for a Portuguese company operating in that country. European establishments competed for this contract.

Compress Sale.—Buyers on the lookout for a cotton compress can find a bargain in the offer of the Charleston Hydraulic Cotton Press Co. of 99 Church street, Charleston, S. C. The press offered is a Taylor patent press, with Babcock & Wilcox boilers, the entire equipment being in good order, and has been operated on the 1898 and 1899 crop.

Want Mining or Concentrating Machinery? The W. J. Carlin Co. of 514 Park Row Building, Pittsburgh, Pa., has purchased a large mining and concentrating plant, which will be dismantled for sale as a whole or in portions. The machinery thus made available to prospective purchasers is of the highest character, and was put in regardless of expense. Parties wanting this class of machinery will find it to their interest to obtain prices on this offering.

Using Graphite Paints.—The merits of graphite paints are constantly becoming better and more widely known. The use of these paints is increasing rapidly as their merits become recognized. Of course, graphite in itself does not form a reliable and satisfactory pigment, but when scientifically mixed with other ingredients it develops properties that are always wanted in the markets. Practical experiments by Detroit (Mich.) Graphite Manufacturing Co. has enabled it to produce a line of graphite paints that users are finding to possess properties of valuable advantage.

Secured Large Contract for Safes.—New financial organizations and established institutions throughout the country are constantly installing modern safes and vault equipment. The York (Pa.) Safe & Lock Co., Baltimore branch at 33 South Charles street, has secured a large contract in this line. It is for the furnishing of all fireproof vault safes in the different offices of the Guardian Trust Co., building for which is now erecting in Baltimore. The latest-improved construction that experience and experiments have been proven of the highest value will be used in the work.

Ice Manufacturing.—The installation of ice-manufacturing plants throughout the country continues with undiminished activity. The Fred W. Wolf Co. of Chicago secures a large share of the contracts placed. Among the recent orders received by the Wolf Company were the following: 12-ton Linde refrigerating machine at Waukesha, Wis.; 75-ton Linde refrigerating machine at Chicago, Ill.; 25-ton Linde refrigerating machine at Barry, Ill.; 40-ton Linde refrigerating machine with 15-ton ice factory at Merida, Yucatan, and 4200 feet of brine piping for Ashland (Wis.) brewery.

Air-Compressing Machinery.—It is needless to say that the use of air-compressing machinery of all kinds is constantly on the increase. The demand for this class of apparatus has prompted the organization of a new manufacturing establishment, which will offer a complete line to users. The New York Air Compressor Co. has been organized, with capital of \$100,000, and purchased a complete foundry and machine shop at Arlington, N. J., where it will produce its machinery. J. W. Duntley is president;

Alex. MacKay, vice-president, and W. P. Pressinger, secretary-treasurer. The New York city office is at 120 Liberty street.

Copper Works for Sale.—The activity now prevailing in all branches of the metal trades makes attractive any opportunity that is offered to engage in that business. A complete copper rolling mill and brass foundry, in running order, having equipment of five trains of sheet rolls for hot and cold plates up to seventy-two inches wide, and two trains of bar rolls for rolling from one-quarter inch to five inches, with annealing and heating furnaces, is offered for sale by Messrs. Henry A. Hiltner's Sons of Gaul and Sergeants streets, Philadelphia, Pa. This mill rolled the plates for the cup defender "Defender," but not for the "Columbia," as stated by mistake in the firm's advertisement recently. Correspondence concerning the plant offered is solicited.

Punching and Cutting Structural Iron.—In the construction of bridges, viaducts, elevated railroads, roofs, buildings and other iron and steel structural work, cutting and punching by hand with the use of portable machines is a most invaluable operation. The Werner's patent portable machines for this purpose are equally advantageous in workshops, yards, stores, etc. These machines cut beams, channels, angle and flat bar iron, etc., and a large number of them are in successful practice throughout the world. Manufactured by the "Berlin-Erfurt" Machine Works (Henry Pels & Co.) of Berlin, Germany; present headquarters Mr. Henry Pels, Rooms 84 to 87 at 66 and 68 Broad street, New York city. Possible users of such machinery are invited to send for literature.

Anent Abrasive Materials.—The general use to which abrasive materials have progressed is affording a large business to the leading manufacturing companies in the abrasive line. One of these is the Abrasive Material Co. of Paschal, Philadelphia, Pa., which offers corundum and emery wheels, emery-wheel machinery, emery-wheel dressers and cutters, etc., made after designs and of material that have proven in actual use to be of the highest grade of merit. The Abrasive Material Co. erected its first plant less than two years ago, the building being a two-story 60x70-foot brick structure. The demand for the product increased at such a rate that this year it was necessary to build another structure of the same size as the first one, thus doubling the plant; also a new power-house was erected; general improved and additional facilities were installed to enable the company to take care of its rapidly-increasing patrons. The company sends its goods all over the world, only recently having received inquiries from Europe, Australia and South America.

Praising an Automatic Boiler Feed.—Engineers generally recognize the many advantages of having installed a complete and satisfactory boiler feed in their steam plants. A recent letter from the well-known manufacturing concern, the A. B. Farquhar Co. of York, Pa., speaks in the highest terms of the Burrows automatic boiler feed. The York company says: "The Burrows automatic boiler feed is working very satisfactorily. It keeps the water at constant level without any attention by means of the automatic back-pressure valve attached to the pump. We are enabled through this to keep our water-level some four or five inches lower than we used to keep it, and, of course, save just that much in fuel, and the steam is dryer and better, saving fuel also through this. One merit it has, too, is that of making such a great noise if the water gets low, as it did one day when our pump was out of order. The whistles on each of the five Burrow feeds commenced to blow off with a noise that could be heard a quarter of a mile away, giving a warning which, it is impossible for the least intelligent to fail to heed. As to the saving in coal effected we have not yet made any calculations, but the above data will enable anyone to calculate for himself. We have five horizontal boilers of ninety-five horse-power each." The Burrows Manufacturing Co. of Williamsport, Pa., manufactures the device praised thus by the above communication.

Prepare for Advancement.—Attention is called to the announcement of the American School of Correspondence, Boston, Mass. The school offers special advantages to readers of the Manufacturers' Record to secure an education, enabling them to pass government examinations. The object of this school is to give the busy man a thorough training in steam, electrical and mechanical engineering by mail. The steam-engineering courses are carefully supervised by experts, and are in close touch with the developments of the age. The instruction is carefully graded, thoroughly practical and

scientific, and is intended to give engineers a complete technical training. The student's work is carefully inspected by well-known experts and instructors of the school, who are all graduates of the leading technical schools. The advisory board is composed of such well-known men as Dr. Robert Grimshaw, Mr. Chas. Thom, Mr. Francis H. Boyer and others. This worthy Boston institution occupies a unique place among schools, and having a limited number of subjects to teach secures the services of well-known members of the engineering profession for instructors and advisers. The school is chartered by the Commonwealth of Massachusetts, and is strictly an educational institution, not a money-making enterprise. The tuition fee is placed within the reach of all wage-earners. It has been warmly endorsed by the leading educators and engineers throughout the country. Handbook supplied on request.

Telephone Installations.—During the past several years there has been exceeding activity in the installation of telephone equipment and exchanges throughout the country. In the South the extension of telephone connections has been general, and the development of this branch of modern facilities has produced a large volume of business for manufacturers of instruments, exchanges and other necessary complement for telephonic communication. One of the leaders in the independent telephone movement is the Western Electrical Supply Co. of St. Louis, Mo. Being general electrical-supply dealers as well as manufacturers, the company has many decided advantages. It is prepared to equip a line and exchanges with complete construction material, 'phones, switchboards, etc., from stock, thus giving prompt and satisfactory deliveries, which latter is an item of importance. Lately an arrangement was closed whereby the company virtually agrees to handle the entire output of the Victor Telephone Manufacturing Co., taking the exclusive agency for this company in the South and west of the Mississippi river, covering twenty-seven States. The apparatus furnished by the Western Electrical Supply Co. is in every respect of the most modern designs that have been found in theory and practice to give the utmost satisfaction. Companies desiring to extend or improve their telephone service, or new companies about to contract for lines and equipment, are advised to consult with the Western Company before placing contracts.

TRADE LITERATURE.

"59" Derrick Engine.—An attractive hanger in three colors of the "59" derrick engine of the Lidgerwood Manufacturing Co. can be had on application to the New York offices at 96 Liberty street.

For Wall Finish, etc.—Messrs. Benjamin Moore & Co. of 244 Water street, Brooklyn, N. Y., have issued a sample card of their "Muresco," for wall and ceiling decoration. They claim this material to be superior to kalsomine or any other wall finish. The firm also issues a card relative to its graphittalic, a durable elastic paint for metal surfaces.

Souvenir Calendar.—The first 1900 calendar received comes from Messrs. Armour & Co. of Chicago. It is a credit to the designers' and printers' art. Handsomely printed in colors, the calendar presents pictures of Admiral Dewey, of the "man behind the gun" and of Admirals Perry, Worden, Porter and Farragut. Twelve cents in stamps secures you one of these souvenirs.

"Lackawana" Lubricators.—Engines, dynamos, locomotives and general machinery requiring lubricating find automatic devices for the purpose most satisfactory in practice. Manufacturers have introduced many novelties for lubricating purposes, one of the most successful being that made by the Lackawana Lubricator & Manufacturing Co. of Scranton, Pa. A booklet relative to the "Lackawana" lubricators is issued for distribution gratis.

Basis of Manufacturing Economy.—The selection of economical abrasives in the matter of shop grinding and polishing has received comparatively little attention, probably because the cost of grinding materials is a small sum compared with other shop expenditures. And it is known that every manufactured article is either ground into shape or fashioned by tools. Grinding may well be said to be the fundamental operation in all manufacturing, and economy in grinding is at the foundation of all shop practice. A new substance for abrasive purposes introduced within the past several years is carborundum, and its value has rapidly become known throughout the industrial world. Its many merits and its excellence as opposed to some

other grinding substances has gained for it a large clientele, which rapidly extends as those who utilize abrasives in their business become more familiar with it. The Carborundum Company of Niagara Falls, N. Y., manufactures this abrasive and is ready to forward booklet to interested persons.

Sea Routes to the South.—Each year the tide of travel southward increases greatly, being augmented largely by the number of persons in search of healthful resorts, who are finding that the South offers many advantages that have heretofore been thought to exist only in the old European resorts. Nature has provided in sections of the South a delightful climate, free from the cold blasts of winter, fanned by warm and balmy breezes and luxurious in the products of the flowery kingdom. The pleasure-seeking tourist or the business man contemplating a visit to the land of sunshine and flowers will find of interest a booklet just issued by the Merchants & Miners' Transportation Co. of Baltimore. This company offers the "Queen of Sea Routes" to the South, whereby one may escape the tedium and fatigue that railroad travel entails upon many. The company's fast, elegant and staunch steamers wind their way from Boston and Providence via Norfolk and from Baltimore via Savannah to the South. Booklet on application.

Best Value in Vehicles.—Notwithstanding the vogue that some motive-power vehicles have acquired recently, the use of horse and carriage for pleasure and business purposes continue to, and will always, make a large demand for vehicles of the highest character. Some recent improvements and innovations in the carriage world have augmented to a considerable degree the durability and comfort of all four-wheeled vehicles. These new features (such as solid and pneumatic rubber tires, etc.), combined with the best obtainable material and the highest grade of workmanship and machinery, enable manufacturers to offer lines that are in large and increasing demand. One of the most prominent manufacturers of vehicles in this country is the H. H. Babcock Company of Watertown, N. Y. This factory was first established in 1845, and its development to its present extensive plant has been the result of a demand that has been the result of the highly meritable goods that have been offered to the driving public. Besides the general requisites of a fine carriage, the Babcock Company introduces some important features in its vehicles that are not used in others. Its dustproof, self-oiling axles, Bradley quick-shifting shaft couplings, its fifth wheel on Victor vehicles and other devices all assist in producing carriages that are not excelled by hand-made or factory vehicles of other brands. Consumers and prospective members of the driving world are advised to send to the Babcock Company for catalogues before placing orders elsewhere. The Southern branch is at Baltimore, Md., 17-19 W. Fayette street.

The University of Tennessee Press has in publication a work on "Grasses and Forage Plants," by J. B. Killebrew, who is probably our greatest authority on the practical aspects of this subject. It discusses the characteristics of the principal grasses, maintenance of pastures and meadows, leguminous forage plants, wild pastures and their value, etc. The book is fully illustrated with original analytical engravings made by Scribner, our best botanical expert and draftsman of grasses, and embellished with a large number of half-tone cuts of field operations. Killebrew's "Grasses of Tennessee," which was the standard work on this subject for years, is now entirely out of print, and brings \$3 a copy. This new book contains all the information in the former work, entirely rewritten, with the addition of twenty years' experience, and all the fresh knowledge obtained by the experiment stations. It is a complete manual of the subject, about 140 pages, and is written in a style to be understood by everyone. A number of the colleges and experiment stations have ordered copies for distribution, for use in their classes, at farmers' institutes, etc. The work may be obtained at cost by applying to University of Tennessee Press, Thos. D. Morris, manager, Knoxville, Tenn.

During October 6,508,540 stogies were manufactured at Wheeling, W. Va.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Trust Company of West Virginia.

A trust company has been formed in West Virginia which promises to play an important part in financing enterprises in that State. It is termed the Trust Company of West Virginia, and has a capital stock of \$250,000, which may be increased to \$1,000,000. Its charter is very liberal, and allows it to engage in manufacturing, railroad or other operations. Among those interested are Hon. Stephen B. Elkins, Hon. H. G. Davis and Hon. R. C. Kerens.

New Corporations.

Richard Hill is interested in the Bank of Crossville, Tenn., recently chartered with \$25,000 capital stock.

The Russell County Bank is the title of the new bank which is to be opened at Lebanon, Va. V. B. Gilmer is to be cashier.

The Beverly Bank, recently organized at Beverly, W. Va., includes the following incorporators: Hon. S. L. Baker and H. G. Kuhn of Beverly.

There is a possibility that a bank will soon be organized at Courtland, Ala., as a branch of the Merchants' Bank of Florence in the same State.

D. O. Magee has been elected president; C. C. Dean, vice-president, and S. W. Smith, cashier, of the bank recently organized at Leland, Miss.

A dispatch from El Paso, Texas, is to the effect that another bank is to be organized in that city under the national banking laws with \$150,000 capital. A. Krakauer is one of those interested.

Foster Black is president; A. H. Martin is vice-president, and George T. Tilley, cashier, of the Merchants and Planters' Bank, recently organized at Berkeley, Va., with a minimum capital of \$25,000.

New Securities.

The town of Alexandria, La., will vote November 20 on the proposed issue of \$70,000 in bonds for improvements. Address the mayor.

The issue of \$300,000 in sewer bonds, which it was supposed had been sold by the city of Galveston to Messrs. Gay & Co. of New York, have been declined by the firm in question, and it is possible that they will again be placed on the market.

Dividends and Interest.

The Consolidated Gas Co. of Baltimore has declared a dividend of 2 per cent.

The First National Bank of Baltimore has declared a semi-annual dividend of 3 per cent.

The Second National Bank of Baltimore has declared a semi-annual dividend of 3½ per cent.

The Shelby Iron Co. of Shelby, Ala., has declared a dividend of 5 per cent. on its capital stock, which amounts to \$1,000,000.

Financial Notes.

The Atlantic Trust Co. has been organized, with Hon. William T. Malster as president. The directory includes Messrs. Christian Devries, president of the National Bank of Baltimore, as well as other local capitalists, associated with R. C. Flower of New York, W. L. Halsey of Louisville, C. W. Hammond of Buffalo and A. W. Wood of Pittsburg, Pa. It is understood that several other directors will be elected from Baltimore and else-

TABLE OF CONTENTS.

EDITORIAL:	Page.
The South of Today.....	277
A Chance to Progress.....	277
Advancing American Trade.....	277
Training for Trade.....	277
The Trouble with Texas.....	278
Notes on the Southern Iron Industry.....	278
America—China—England.....	280
Rich Ore Deposits.....	282
A Big Iron Consolidation.....	282
Increasing the Capacity.....	283
Eastern Iron Markets.....	283
The Iron and Metal Trades.....	283
Examining the Catawba.....	283
FOREIGN TRADE:	
More Flour Shipments.....	284
Prospective Market for Southern Coal.....	284
Passenger Business to Europe.....	284
Improving Brunswick Channel.....	284
New Vessel for the Lord Line.....	284
Steel and Cotton for Asia.....	284
Jottings at the Ports.....	284
RAILROAD NEWS:	
Jacksonville & Southwestern.....	284
Guyandotte Valley Road.....	284
More Cars for the Southern.....	284
Service to the South.....	284
Southern Railroad Earnings.....	284
Western Maryland May Be Sold.....	284
Railroad Notes.....	284
TEXTILES:	
An 8,709,690-Bale Crop.....	285
The Negro Cotton Mill.....	285
Yarn Mill of 10,000 Spindles.....	285
Cotton Movement.....	285
8000 Round Bales.....	285
Textile Notes.....	285
COTTONSEED OIL:	
The Market for Cottonseed Products.....	285
Cottonseed-Oil Notes.....	285
LUMBER:	
Lumber Market Reviews:	
Baltimore.....	286
Charleston.....	286
Savannah.....	286
Mobile.....	286
Beaumont.....	286
Lumber Notes.....	286
PHOSPHATES:	
Buying Phosphate Lands.....	287
Florida Phosphate Notes.....	287
Phosphate Markets.....	287
Phosphate and Fertilizer Notes.....	287
MECHANICAL:	
Leather Link-Belt (Illus.).....	288
Automatic Screw Machine (Illus.).....	288
Shear-Cutting and Self-Cleaning Grate (Illustrated).....	288
Derrick Engine with Simplex Swinging-Gear (Illus.).....	289
Browne's Vacuum Baling Tank (Illus.).....	289
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	290
Building Notes.....	292
Railroad Construction.....	292
Machinery Wanted.....	293
Trade Notes.....	293
Trade Literature.....	294
FINANCIAL NEWS:	
Trust Company of West Virginia.....	294
New Corporations.....	294
New Securities.....	294
Dividends and Interest.....	294
Financial Notes.....	294

where. The company is capitalized at \$1,000,000, with a surplus of the same amount.

Personally-Conducted Tours via Pennsylvania Railroad—Season of 1899-1900.

The Pennsylvania Railroad Co. announces the following personally-conducted tours for the season of 1899 and 1900:

Mexico and California.—A 45-day tour will leave Baltimore February 13. Fourteen days will be spent in Mexico and eighteen in California. The party will travel over the entire route by the "Mexico and California Special," the finest train that crosses the continent.

Florida.—Four tours to Jacksonville will leave Baltimore January 23, February 6 and 20, and March 6. The first three of these admit of a sojourn of two weeks in the "Flowery State." Tickets for the fourth tour will be good to return by regular trains until May 31, 1900.

Tickets for the above tours will be sold from all principal points on the Pennsylvania Railroad. For detailed itineraries, giving rates and full information, address B. Courlaender, Jr., Passenger Agent Baltimore District, Baltimore, or Geo. W. Boyd, Assistant General Passenger Agent, Philadelphia.